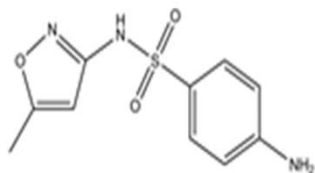
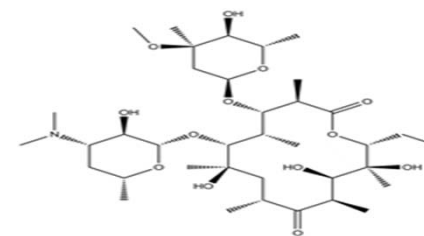


Quality and Use of Antibacterial agents purchased from formal and informal medicine suppliers in Ghana

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5/15/2014



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PRESENTATION OUTLINE

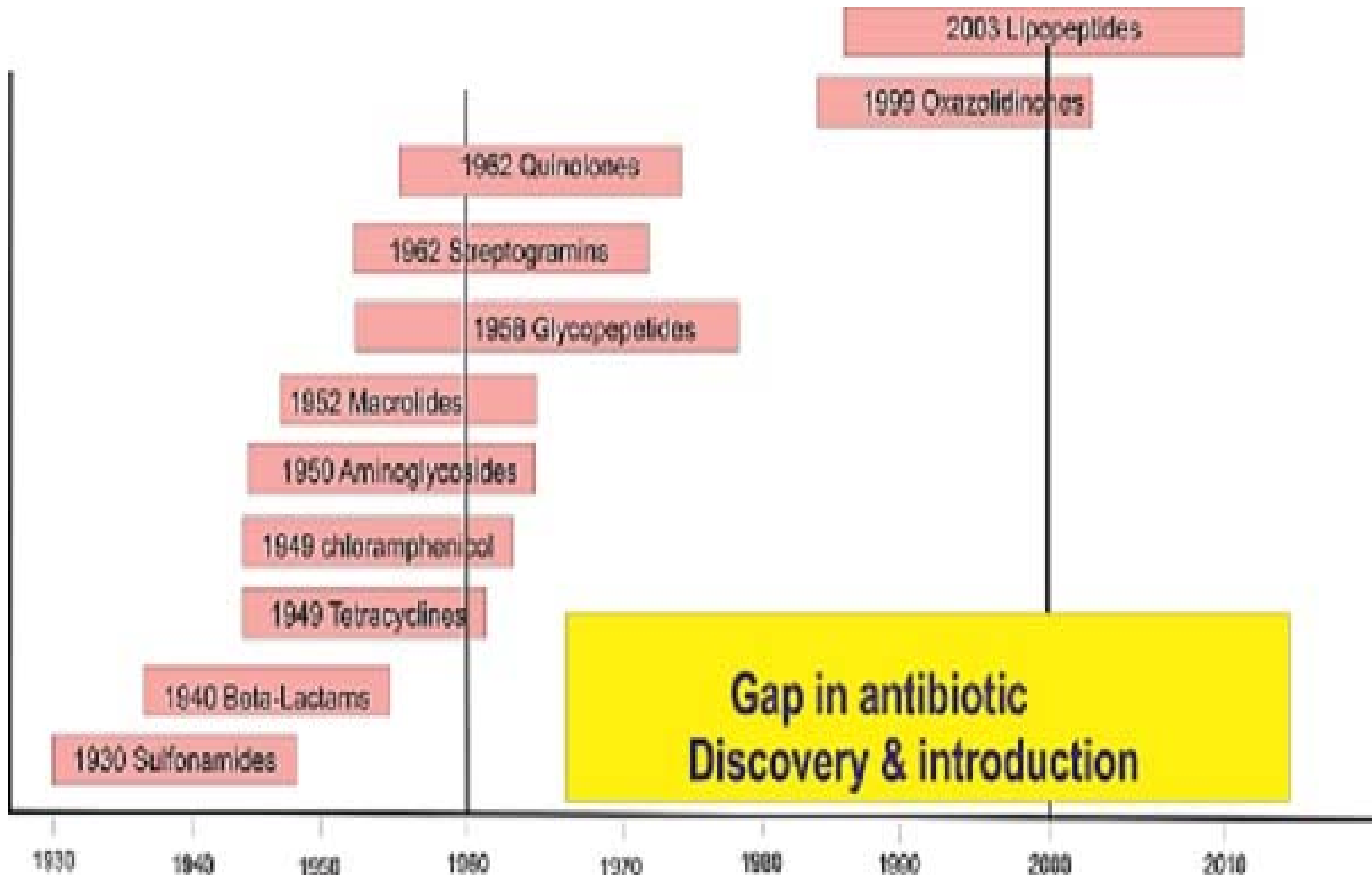
- Introduction
- Objectives
- Materials and methods
- Results
- Discussion
- Conclusion
- Acknowledgement

INTRODUCTION



- Magic bullets turning into lethal weapons
- Burden of disease resulting from Infectious diseases
- Misuse/Inappropriate use of Antibiotics esp. in Africa/Developing countries

Novel Classes of AB Development (1936-2012)



“ The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily underdose himself and by exposing his microbes to **non-lethal quantities** of the drug make them resistant”

Sir Alexander Flemming- 1945

**DO AB'S IN OUR HEALTH FACILITIES/FROM
ILLEGAL SOURCES WORK??**

OBJECTIVES

- To establish the quality of formal and informal antibacterial agents supplies
- Understand why consumers use supplies from informal outlets.

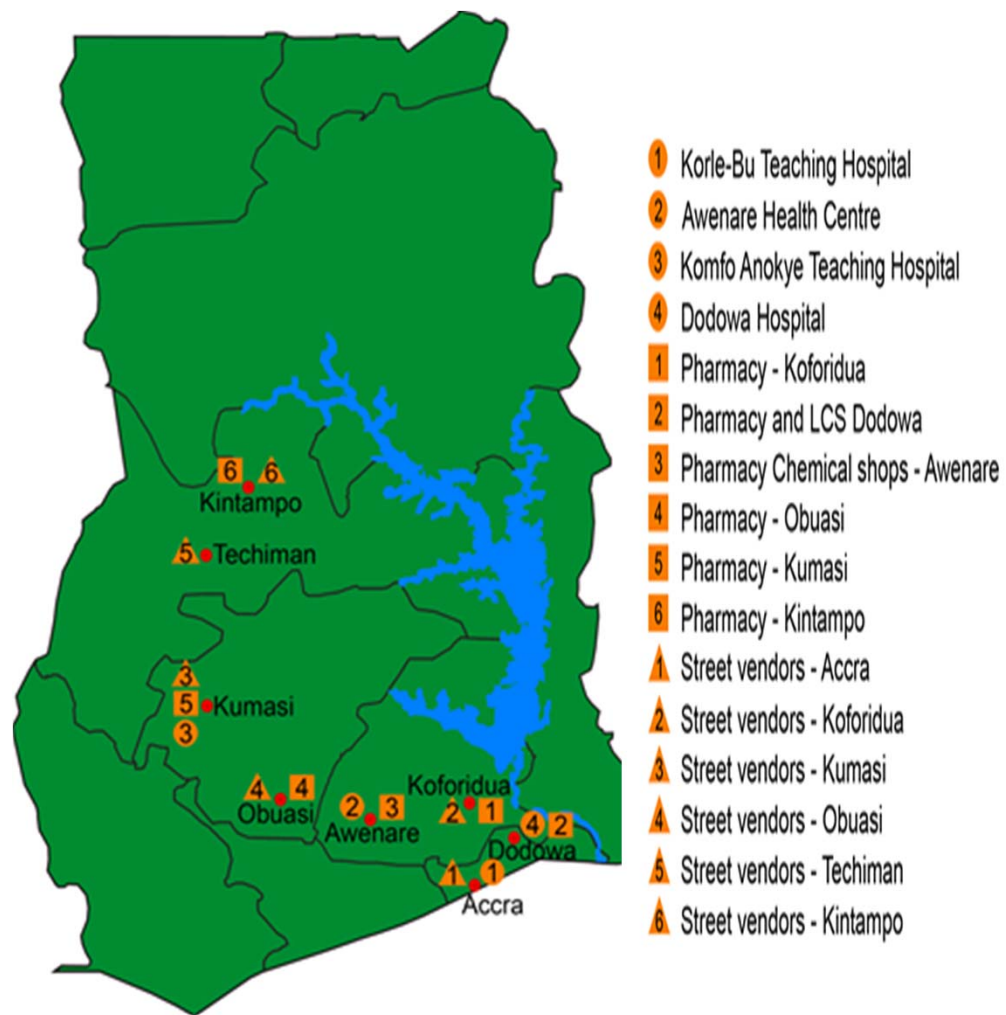
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ANTIBIOTICS STUDIED

Amoxicillin, Clavulanic acid,
Ampicillin, Cefuroxime, Pen V.
Metronidazole, Tetracycline,
Ceftriaxone, Penicillin G,
Sulphamethoxazole,
Gentamicin, Trimethoprim,
Ciprofloxacin, Erythromycin

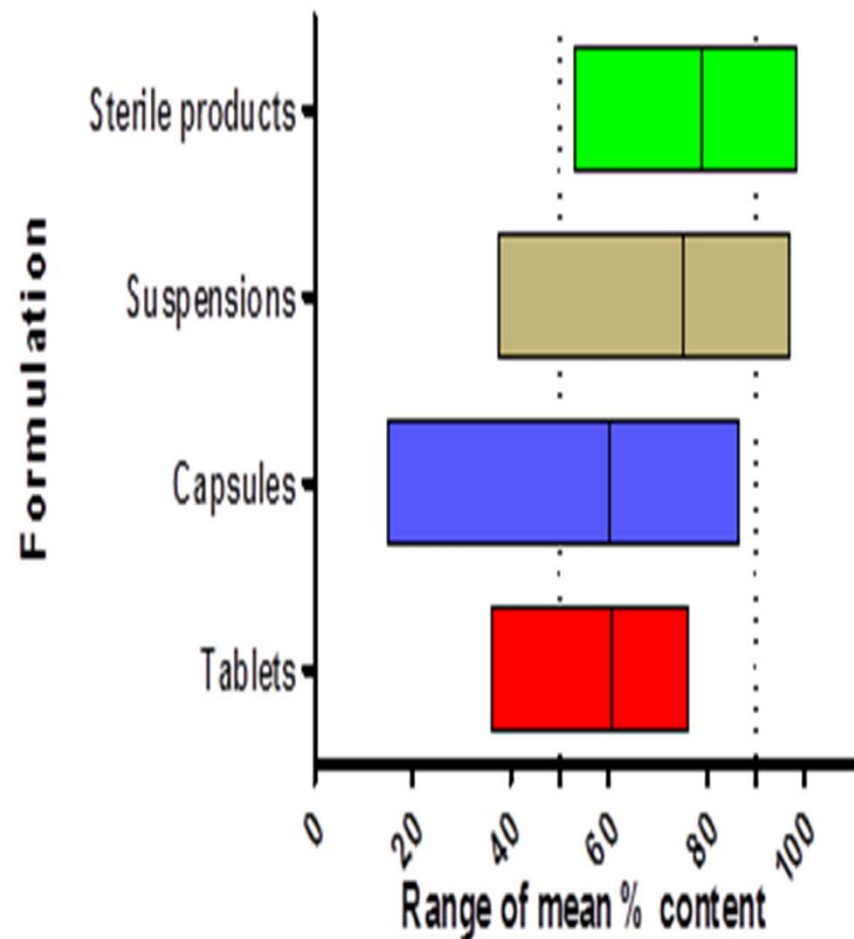
MATERIALS AND METHODS

- Selection of AB's /UK sourced- Validation
- Study sites
- Sampling/Validation
- LC-MS/MS analysis
- Qualitative study

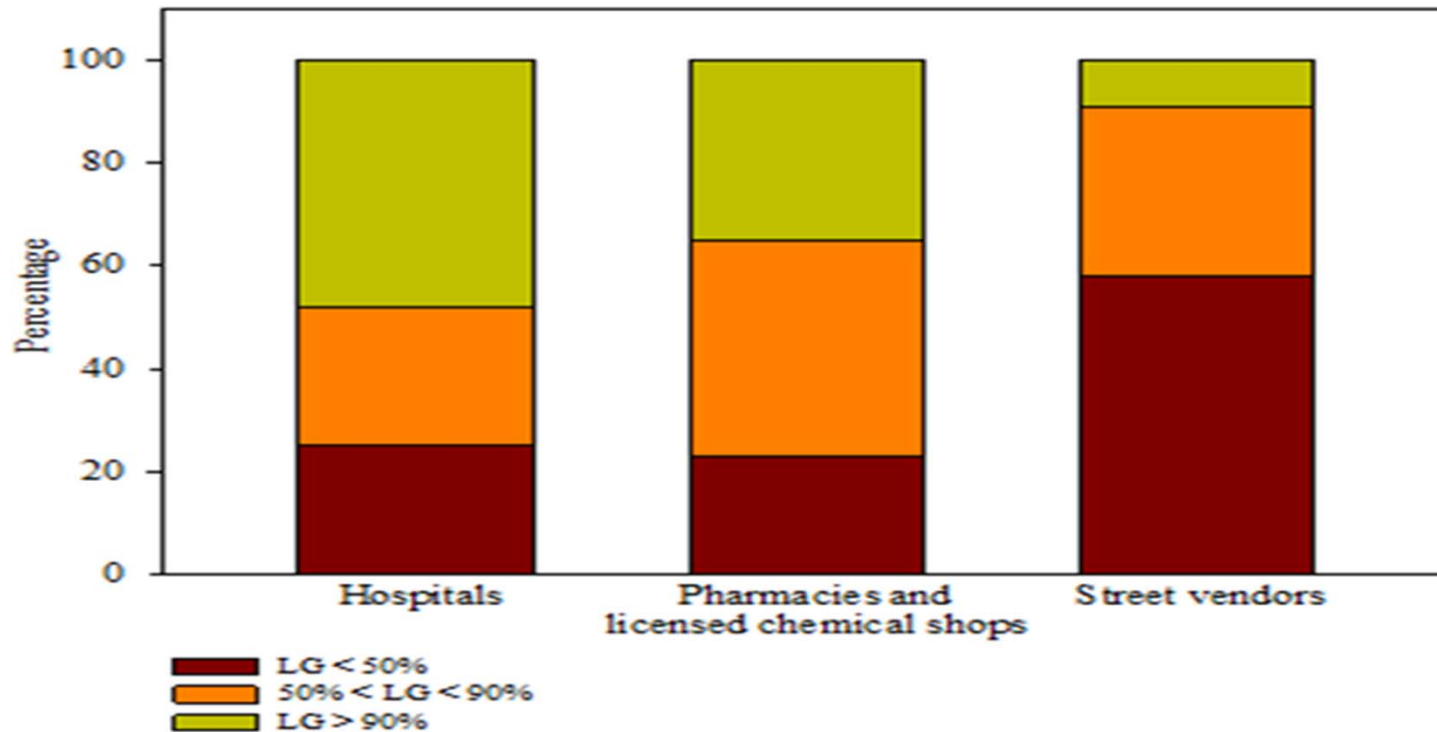


RESULTS – CONTENT VARIATION IN FORMULATIONS

- 348 samples
- **66% < 90% LG** viz contribution from PD
- **154** products (**44%**) were imported and **194** products (**56%**) were locally produced.
- **Imported products** predominant in **hospitals/health centres (80/138, 58%)** than in **private pharmacies** and **licensed chemical shops (52/136, 38%)**.
- Just **31%** of products (**23/74**) sampled from **street vendors** imported.



RESULTS - % CONTENT OF AB'S



N.B.

Sulphamethoxazole/ Trimethoprim; Tetracycline/Oxytetracycline

RESULTS (household visits)

Variable	Frequency
Number of households visited	12
Number of household visits in 8 weeks	147
Number of reported incidents of medicine use	95
Number of reported incidents of medicine use involving antibiotics	38 (40%)
Number of incidents of antibiotic use based on health worker advice	14 (37%)

RESULTS (household visits)

- Rationale for self-treatment and patronage of street vendors

“because now there is health insurance, the health facilities have increased the cost of services forgetting that not everybody has health insurance”

“...sometimes after going through all the processes, then you are told the medicine the child needs is not available and you have to go to the drug store to buy it”.

“The owner [of the licensed chemical shop] is a retired policeman. He runs the shop himself. Sometimes his wife or children attend to the shop. None of them are trained. They are not able to advise on procured medicines like [name of street vendor] does”

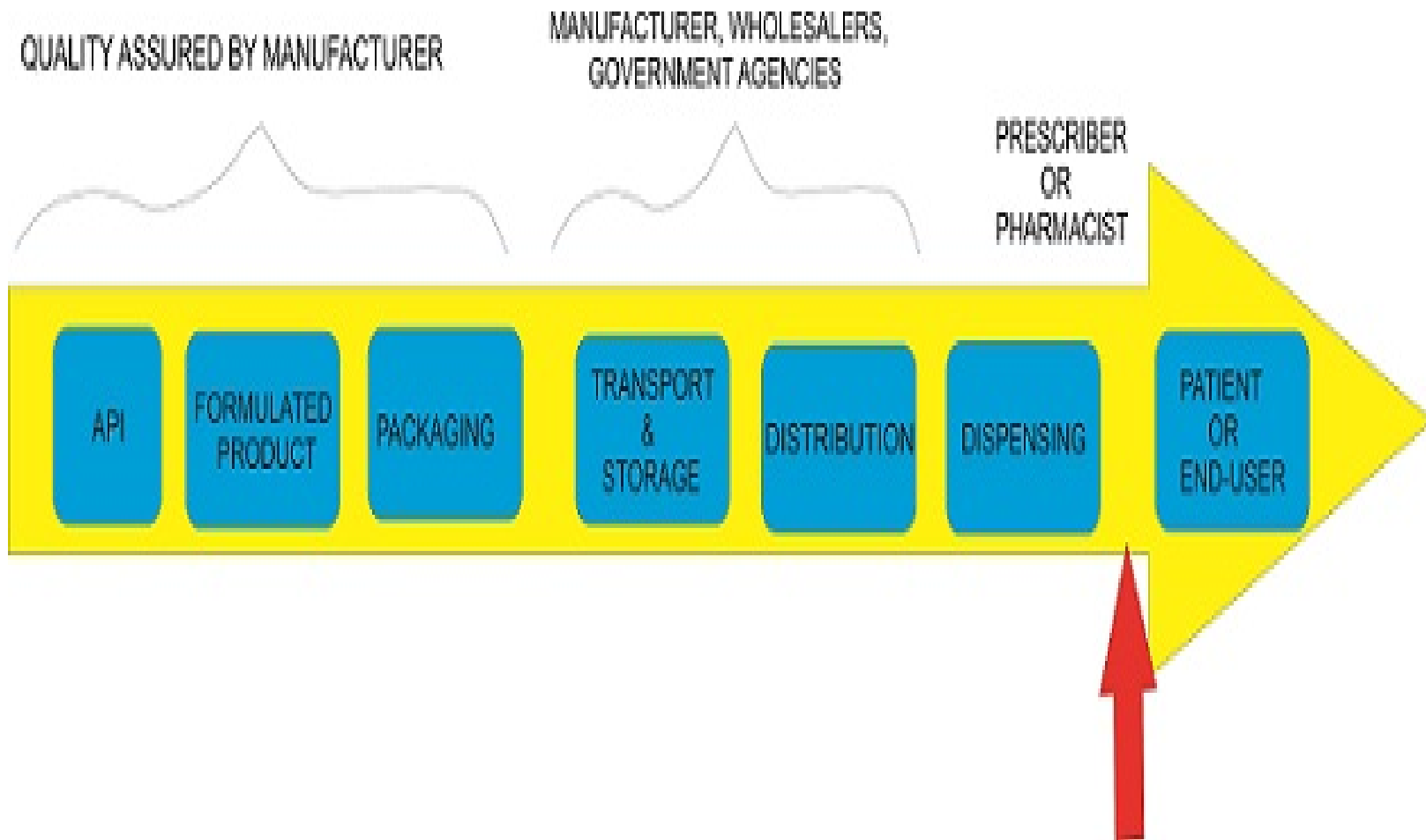
DISCUSSION

- Population at study sites-56% of total GH population
- 52%-65% substandard –formal suppliers
- **91% from street vendors' substandard**
- 7 Antibiotics (amoxicillin, metronidazole, sulphamethoxazole, trimethoprim, cefuroxime and axetil, ciprofloxacin) available as **both imported and locally manufactured products.**
- The **average active ingredient** percentages was **49%** for **imported products** and **69%** for **locally produced products**, and this difference was statistically significant ($p = 0.00042$, Friedmans Anova).

DISCUSSION – USE

- Informal drug suppliers -
Convenience/Affordability
- Disease management with sub-standard drugs
from informal sources

THE SUPPLY CHAIN INTEGRITY



CONCLUSION

- Majority of samples from formal and informal sources sub-standard
- Better analytical techniques for quality surveillance
- Strategies/Interventions to help discourage self care especially from informal sources
- Product quality certification at point of dispensing to be encouraged

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THANK YOU