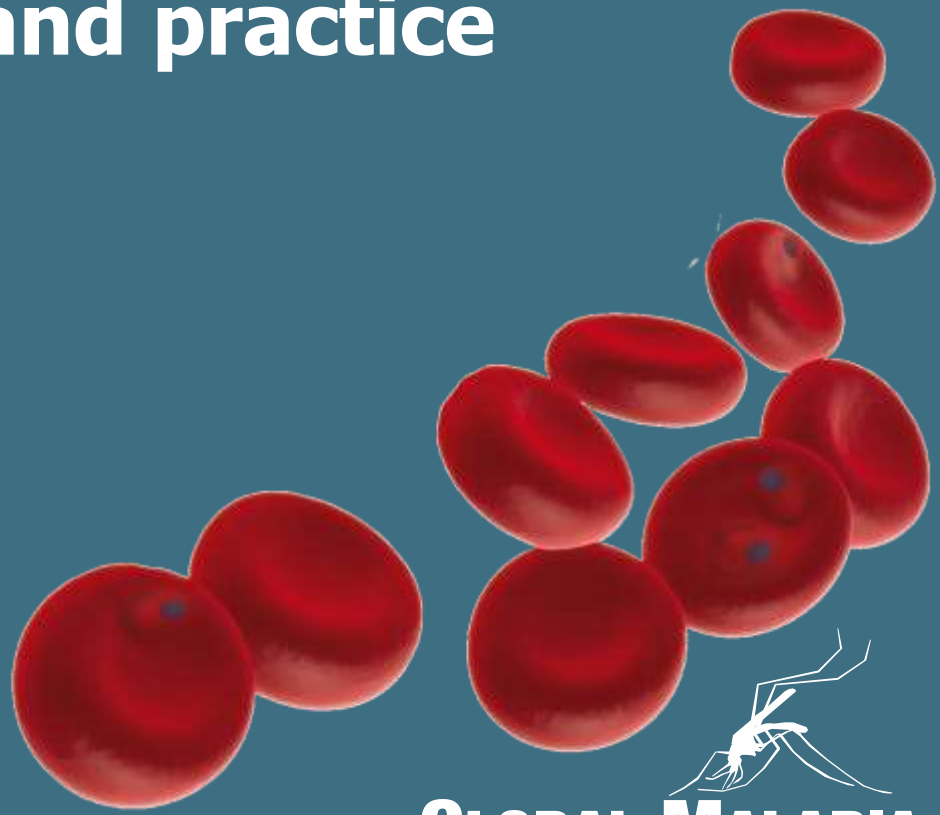
WHO Informal Consultation on fever management in peripheral health care settings: a global review of evidence and practice



Global Malaria Programme, WHO

GLOBAL MALARIA PROGRAMME

Section I - Review on etiologies and management of febrile illness

What are we trying to do?

- Intended aim need to be clear:
  - Reduce antibiotic prescription / drug resistance
  - Increase appropriate treatment
  - Reduce severe disease
  - Save money

Etiologies

- Common findings of studies on etiologies so far:

  Children<5 years: ½ ARI, 1/10 to ¼ diarrhoea, rest unspecific fever, UTI always low, typhoid low in Africa, high in Asia

  Adults: driven by HIV (40% even in low prev area)
  more vector-born, live-stock, outdoor (lepto, rickettsia, typhus…)

- Low specificity of RR for pneumonia in underfive confirmed → viral etiology
- As we go away from 'gold standard diagnosis' towards clinical outcome, 'Treatment failure' need to defined (e.g pneumonia)

Section I - Review on etiologies and management of febrile illness

Epidemiology

- Good estimates of incidence or prevalence only if clinical data or asympt. group associated to 'crude' laboratory data (biased pop.)
- Serology lack specificity and PCR is too sensitive → high pos. rate in asympt group
- Severe disease is very rare at peripheral level, especially community (true?)

The way forward

- No need to repeat extensive etiology studies
  - → use simplified design
  - → build on existing networks (GEMS, PERCH, TSAP…)
  - → at different levels: community / outpatients / admissions
  - → in different age groups: underfive, 5-15y children, adults
- Methodology:
  - → target unspecific fevers in different areas
  - → is asymptomatic control group always necessary?
  - → common definitions for diseases

GLOBAL MALARIA PROGRAMME

Section I - Review on etiologies and management of febrile illness

The way forward

- Analytical Considerations

  Possible/useful to develop a 'standard' framework for data analysis
  - Descriptive epidemiology
  - Risk factors for disease progression, severe illness, drug resistance
  - Risk factors for treatment with an antibiotic
  - Effects of recommending specific treatment (eg doxycycline)
  - Modelling to inform target product profiles of new diagnostics
  - Disease severity vs pathogen-specific
  - Respiratory rate counters, pulse oximetry
  - Target sens/spec
  - Algorithm design (eg ALMANACH)

- Formulating algorithms

  → etiologies

  → other factors (distance to HF, economical stautus, ease of referral..)

  → continuum of care

  → potential of electronic guides for compliance and data collection

Section II - Available WHO guidelines and tools for the management of fevers

Tools available

	Hospital	*Health facility*	*Community (& informal private)*
Children	Blue book	IMCI	iCCM
Adults	District manual	IMAI	?

- No guidelines for adults in community
- No guidelines for children 5 to 15 years
- Algorithm for malaria diagnosis&treatment well integrated in most of guidelines
- Home Based Malaria (2002-2005) should be put in archives
- Several points in need for update:
  - Criteria for high and low malaria risk area
  - Testing of anemic children in high malaria risk
  - Testing before referral/pre-referral treatment
  - Time interval new malaria infection (>14 days)
- IMCI & IMAI should be widely disseminated

  → no more malaria diagnosis&treatment without IMCI/iCCM
- Adherence to iCCM OK, to IMCI problematic → find new strategies for HFs

Section II - Available WHO guidelines and tools for the management of fevers

Algorithms available

- Up to which degree of place and time should algorithms be refined?

  → need to go below national guidelines?

  → possible to have them different algorithms according to season?

  → Probably rather by level of health system
  (keep it simple for the community level)

- To keep in mind: HWs are trained and leave, trained and leave again…
- Algorithms for typhoid (and Dengue) in high endemic areas are urgently needed
- Carefully evaluate each new test for cost/benefit before adding it (e.g Dengue)
- IMCI booklets have already become too heavy
- IMAI: How to cope with long list of diseases in the fever branch?

Section II - Available WHO guidelines and tools for the management of fevers

New diagnostic tests

- More specific, more expensive (clinical→epidemio→severity test→pathogen test)
- POCTs already available, some usable as they are (Dengue) other not (Typhoid)
- New POCTs in development

  → to specifically detect one pathogen

  → to 'generically' identify: - patients at risk for progression to severe dis.
  - patients in need for antibiotic

- Electronic tools to measure essential clinical parameters (RR, O_2 Sat, temp.)

Section II - Available WHO guidelines and tools for the management of fevers

Essential medicines

- High level of bacterial resistance to first line treatments:
  → How to quickly adapt guidelines to these changes?
  → How to replace cotrimoxazole by amoxicillin for ARI (dispersible)

- Should also think in terms of 'class of antibiotics' (not only yes/no)

- No evidence to split the list by level of health care → responsibility of countries
- No injectables in the list for community level (pre-referral antibiotic???)

Section III - Agencies and NGOs experience with iCCM

iCCM task force

- Specific tasks:
  - develop tools (training packages, job aids…)
  - set up supply chain management
  - M&E
  - operational research
  - policy & advocacy
  - country support (difficult)

  → based on lessons learned, new manual to guide countries

- Extension to newborns considered, but not to school-children or adults

Challenges to the scale-up (multi-countries review):

- Retention of CHWs in the context of limited HR:
- Supervision of CHWs: more experience peer rather than clinician of HF
- Severe drug shortages: necessity of introducing parallel system → not sustainable
- Care seeking behaviour: communities need to know what care they can expect
- Weak M&E: innovative technologies (basic phones are enough)

Section III - Agencies and NGOs experience with iCCM

Results of operational research

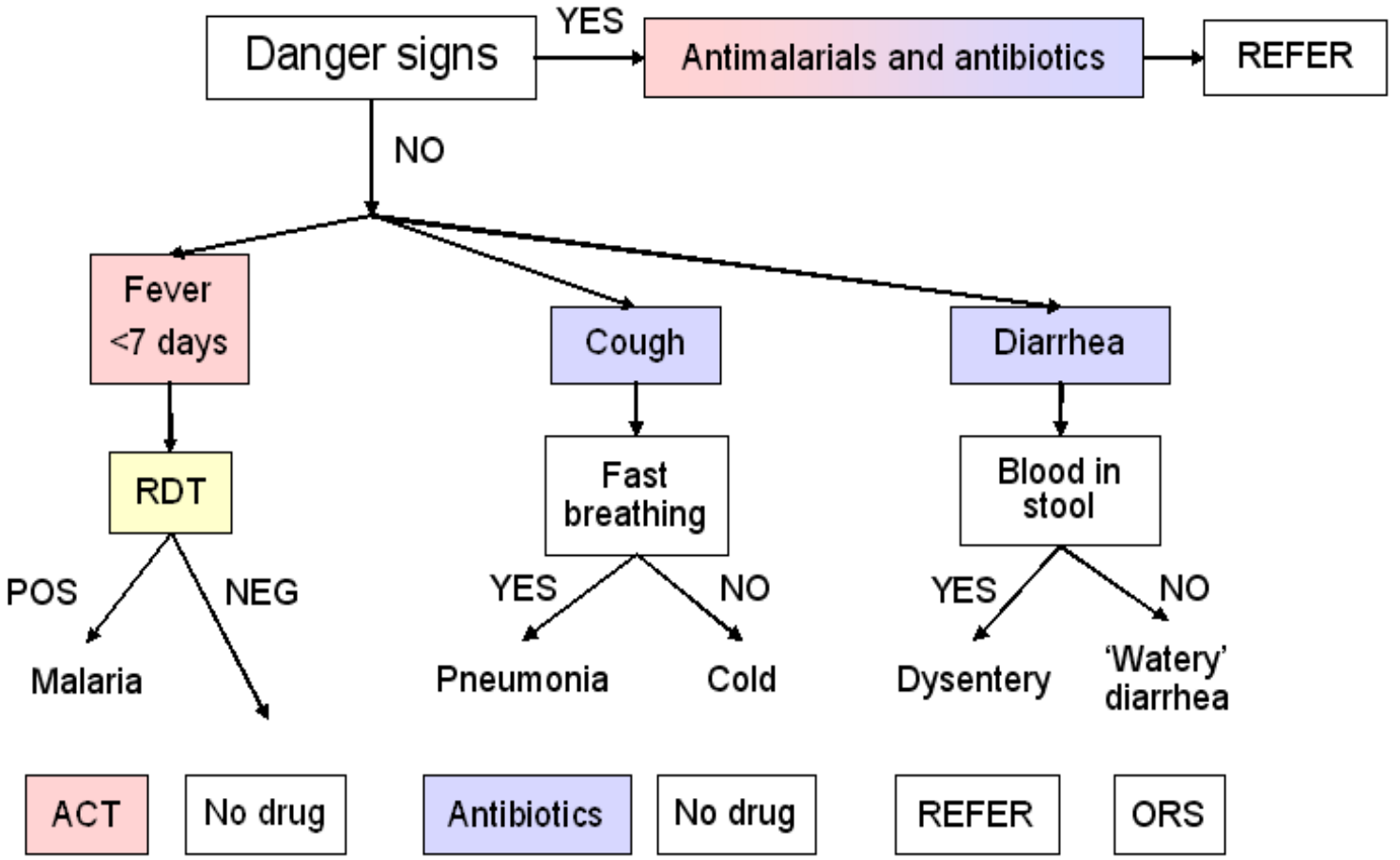
- ↓ mortality with AM (ongoing studies will tell us for AB)
- High compliance with lab-test, low compliance with clinical-test (RR)
- CHWs not good to pick up danger signs (rarely seen)
- Do not refer (Why? Know that patients will not comply?)
- ↑ utilisation of CHWs, but still below expected incidence of diseases
- Very difficult for CHWs to identify danger signs in newborns
- How to measure quality of care: DO without reexam, registers, scenarios not enough for RR and danger signs
- Access should take into account other factors than geograph. Distance
- More and more salaries → helps for retention of HWs
- Feeling of managers: should remain a limited mandate (regulatory problems)
- Costs: much cheaper to manage sev. pneumonia at community level

Section IV - Experiences of community case management of fevers

Public sector

- Rollout of iCCM in different countries with different adaptation of algorithm, training, supervision, data collection/reporting and remuneration/motivation approaches
- Quantification challenges for RDTs and for different medicines (antimalarials, antibiotics and ORS) due to different prevalence of the 3 diseases in different parts of the country
- Supply chain challenges addressed in different ways: in the future need to integrate the current parallel distribution system with the main drug supply system managed by central medical store
- Issues with services at community level outperforming health facilities, and need to review package of services at referral level
- Need to clarify role of amoxicillin for pre-referral treatment of severe pneumonia at community level
- Simplified algorithm required, focusing on malaria, pneumonia and diarrhoea, with focus on danger signs requiring referral

IMCI - Caring for the sick child in the community



Section IV - Experiences of community case management of fevers

Private sector

- Need to be addressed (important source of care in many, not all, settings)
- Factors: source of care, skills levels, disease etiology, coverage with public sector facilities/agents (CHWs etc)
- Not uniform, needs to be segmented (e.g. drug peddlers, retail shops, non registered drug shops, registered drug shops, private clinics (by level), not-for-profits etc)

  → for strategizing research, review and interventions
- Different approaches for different segments

  → e.g: positive incentives (knowledge/training, profits, social marketing, organization into societies etc)

  → to come up with an appropriate "mix" (in each context, segment)
- Do not introduce malaria RDTs alone (e.g. blanket advise for referring RDT-

  →TOGETHER WITH (diagnostics &) treatment for common conditions in that context (e.g. RR timers and (prepackaged) antibiotics; ORS+Zinc)
- Supervision, Quality Measurement and Quality Assurance of care and products:

  → Methods and mechanisms need to be elaborated and evaluated

Section IV - Experiences of community case management of fevers

Private sector

- Surveillance methods need to be elaborated
  e.g. for RDT positivity rate, conditions treated, drug use
  → to integrate information into health management systems
- Empower Demand side (knowledge and purchasing/entitlement-enabled consumers)

  → important factor in improving care-seeking and quality of care
  → e.g: “branding” or social franchising drug shops/clinics/individuals but ALSO criteria of good quality care (e.g. child examined, diagnostic test applied, treatment upon result).
- Need for futhur understanding of:
  - microeconomics of running private sector outlets,
  - construction of (financial) incentive mechanisms that promote desired behaviours (such as profit margins from testing, different treatment combinations etc)