

## **Professional learning as a response to societal challenges at this time of continuing struggle**

Kaatrakoski, H., Charitonos, K. and Littlejohn, A.

### Abstract (150 words)

The paper offers a case study of a project that examines professional learning as a response to the societal challenge of antimicrobial resistance (AMR), defined as the ability of a microorganism to stop an antimicrobial from working against it. AMR has been identified as a significant global challenge. Reducing the effects of AMR requires a step change in learning and working in health-care settings. This study draws on cultural-historical activity theory to examine tensions expressed by professionals involved in AMR activities in three low- and middle-income countries. The qualitative study was based on 60 interviews. Tensions were analysed by thematic analysis and placing them within an activity system. The paper discusses these tensions inhibiting reconceptualization of moving towards the new activity, and four “opposing forces” for further analysis. It offers a critical reflection on how the findings informed educational researchers to navigate further tensions as the research project evolved.

### Extended abstract (1000 words including bibliography)

The World Health Organization (WHO) lists 10 serious threats to public health, including antimicrobial resistance (AMR), the ability of a microorganism to stop an antimicrobial from working against it (WHO, 2019). AMR reduces the effectiveness of antibiotics and, therefore modern healthcare practices, including transplants and cancer treatments. Reducing the effects of AMR requires a step change in learning and working in health-care settings. In 2017, WHO introduced “One Health” (WHO, 2017) which addresses the need for a holistic and multi-sectoral approach to reduce AMR. Recognizing the potentially devastating global effects of AMR, the UK Government launched a major UK Aid initiative, the Fleming Fund<sup>1</sup>, to support low-to-middle-income countries (LMIC) - where the effects of AMR are particularly acute - to improve the surveillance of AMR.

Efforts to reduce AMR have largely focused on performative measures and altering the behaviour of individuals. More recently researchers have used critical social science research to reveal a wider range of problems associated with disconnected practices and organizational, cultural and political influences (Broom et al., 2020; Frid-Nielsen et al., 2019). This paper, as part of a larger study funded by the Fleming Fund, contributes to, and expands critical social science research by taking a systemic view (Engeström, 2015) in analysing AMR activities and understanding AMR as runaway object (Engeström, 2009). The aim is to identify the tensions experienced by professionals involved in AMR activities that may affect processes of knowing and learning around AMR.

Also, attention is paid to researchers’ own pedagogical practice as educational researchers in this field. This is deemed necessary for understanding how the outcomes of this analysis informed practice and enacted

---

<sup>1</sup> The Fleming Fund is a £265m UK aid investment to tackle antimicrobial resistance in LMICs around the world. The program is managed by the UK Department of Health and Social Care, in partnership with Mott MacDonald, the Fleming Fund Grants Management Agent.

pedagogical configurations that led to the development of a bespoke professional development programme for health workers in Fleming Fund participating countries in LMICs<sup>2</sup>.

To identify tensions, the cultural-historical activity theory (CHAT) framework was applied. The tensions were understood as manifestations of contradictions in the form of problems, challenges and disturbances associated with professionals' work within an activity system (Engeström, 2015; Ilyenkov, 1982).

Data were collected in three LMICs by interviewing 60 professionals representing different professional roles. Qualitative content-analysis type of categorization was used to categorize identified tensions into thematic groups. Then, these categorised tensions were analysed within an activity system (Engeström, 2015).

Table 1 below illustrates the themes professionals articulated, the elements of an activity system they were linked to, the number of tensions expressed by participants in each country and number of interviewees (N).

TABLE HERE

The findings reveal a number of systemic tensions showing the transformational potential for new activity (Engeström, 2015). They suggest an urgent need to implement professional learning about AMR at three levels: individuals learning new skills; collaborative team-level learning to develop current practices; and collaborative and boundary-crossing learning to change the whole activity (Virkkunen & Ahonen, 2007).

The analysis provided a solid grounding and understanding of the direction of further analysis by laying out four opposing forces around AMR activities in LMICs:

- (1) cost efficiency and good public health objectives;
- (2) historically and culturally developed hierarchies and good public health objectives;
- (3) individual responsibility and institutional responsibility; and
- (4) fragmented set ups and holistic view of activity.

These opposing forces evidence a contradiction between use value and exchange value, as explained in Marx's theory of capitalism (Ilyenkov, 1982), as well as neoliberal ideology emphasizing individual responsibility (Hood, 1991) and the One Health aims (Chandler, 2019). More research is needed using a historical and contextual approach to further analyse contradictions to better understand cultural and political influences to transform activities in tackling AMR in LMICs. Also, more work is needed to better understand the role of educational researchers within these logics, particularly the links between the theoretical breadth offered by CHAT in the studied context and pedagogical practice. This paper thus offers insights by reflecting on a challenge when navigating the complexity of a major UK Aid programme while ensuring being guided by critical pedagogy frameworks and creating opportunities for expansive learning (Engeström, 2015).

## Bibliography

Broom, A., Kenny, K., Prainsack, P. and Broom, J. (2020), "Antimicrobial resistance as a problem of

---

<sup>2</sup> The Fleming Fund OU collection for professional learning on AMR is available online: <https://www.open.edu/openlearncreate/course/index.php?categoryid=415>

values? Views from three continents”, *Critical Public Health*, pp. 1-13.

Chandler, C. (2019), “Current accounts of antimicrobial resistance: stabilisation, individualisation antibiotics as infrastructure”, *Palgrave Communications*, Vol. 5 No. 1, pp. 1-13.

Engeström, Y. (2009), “The future of activity theory: a rough draft”, in Sannino, A., Daniels, H. and Gutierrez, K.D. (Eds), *Learning and Expanding with Activity Theory*, Cambridge University Press, pp. 303-328.

Engeström, Y. (2015), *Learning by Expanding: An Activity-Theoretical Approach to Developmental Research (2nd Copy)*, Cambridge University Press, Cambridge.

Frid-Nielsen, S.S., Rubin, O. and Baekkesov, E. (2019), “The state of social science research on antimicrobial resistance”, *Social Science and Medicine*, Vol. 242, p. 112596.

Hood, C. (1991), “A public management for all seasons?”, *Public Administration*, Vol. 69 No. 1, pp. 3-19.

Ilyenkov, E. (1982), *The Dialectics of the Abstract and the Concrete in Marx’s Capital*, Moscow: Progress.

Virkkunen, J., & Ahonen, H. (2007), *Oppiminen Muutoksessa: uusi Väline Työyhteisön Oppimiskäytäntöjen Uudistamiseen*, Infor, Helsinki.

WHO (2017), “One health”, available online at: [www.who.int/features/qa/one-health/en/](http://www.who.int/features/qa/one-health/en/) (accessed 28 September 2021).

WHO (2019), “Ten threats to global health 2019”, available online at: <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019> (accessed 28 September 2021).

Tension themes	The main element of an activity system	Country 1 (N=25)	Country 2 (N=21)	Country 3 (N=14)
Capacity building and learning	Subject, tools, rules	128	163	111
Resources (HR, facilities, equipment, materials, funding)	Subject, tools, rules	95	60	47
Cross-sectoral collaboration and communication	Subject, rules and division of labour	23	12	21
Guidelines, protocols, policies	Subject, rules, division of labour, community	38	23	36
Organisational structures and management	Rules, division of labour	4	18	19
<b>Total</b>		<b>288</b>	<b>276</b>	<b>239</b>

Table 1. Overview of findings