MAN.14 - Macromolecule Laboratory (LAMAM): evaluation of 10 years of experience to face a new challenge

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Introduction: The scarcity of financial resources on the national scene and the high costs of maintaining research laboratories have prompted the search for new sources of funding and partnerships for research and development institutions. Therefore, a way in which research laboratories operate as internal and external service providers has been discussed in Bio-Manguinhos. LAMAM as a laboratory specialized in the field of macromolecules matches the concept of outsourcing of service as many biotechnology companies abroad. For this purpose, it is necessary to apply a laboratory management model for quick decision-making and for the choice of technological platforms to be made available to potential partners.

Objective: Apply a laboratory management model based on indicators to evaluate bottlenecks and select potential technological plataforms executed on LAMAM to provide internal demands and external services.

Methodology: We selected the SMART method (Specific, Measurable, Achievable, Relevant, Time-Based) for laboratory management, which is a model based on the choice of key performance indicators, subdivided in different categories: Performance (number of demanded procedures, developed activities, introduction of processes control); Human Resources (academic formation and produtivity), External Sources (grants founding obtained, external partnerships) and Regulatory Compliance. As for database were used the records of the last five to ten years of LAMAM.

Results: Regarding to the performance indicators the most requested platform is the chromatographic followed by physico-chemical characterizations, corresponding to 55.4% and 23.0% of the executed demands over the last 5 years. The number of collaborations in projects of Bio-Manguinhos portfolio is around 11, however the level of requisition for activities performed increased considerably with the introduction of internal process controls since 2015. Over the last ten years LAMAM has continuously invested in the training of its professionals, which reflected directly the increase, since 2009, of published manuscripts (2.3/year), pos-graduated students (1.8/year), external collaborations (11 collaborations/year, since 2017), contemplated projects (6 since 2014) and effective participations in three collaborative FIOCRUZ networks (Nano, Cancer and Chagas). LAMAM has all its employees properly trained in Good Laboratories Practices and Biosafety and since 2015, the laboratory began to produce operating instructions and standard operating procedures. The forecast for 2019 is an implementation of a sistematic study for valuation and cost of activities.

Conclusion: Over the last 10 years, LAMAM has effectively acted in the training of human resources. The increase of internal and external demands has evidenced the applicability of LAMAM as a facility in the area of macromolecules. According to the inventory, technological platforms to be iniatially offered for external services could be chromatographic and physico-chemical characterization, which are the lab's expertises. The use of these selected indicators may guide the next management decisions to be taken in order for LAMAM to provide external services.

Keywords: Macromolecular Laboratory; Performance indicators; Laboratory management