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DEVELOPMENT PROCESS AND CURRENT SITUATION OF PUBLIC HEALTH LABORATORIES

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ABSTRACT

Introduction

This study shows that analyzing the status of building and equipment, staff contribution, trainings had been affect the process of Public Health Laboratories growing.

Aim of the study

It was aimed that providing the needs and demands of the Public Health Laboratories on a timely and accurate basis and making general state detections to develop standardization.

Material and methods

In the work done, general information inventory, collected by Public Health Laboratory Planning and Coordination Unit's general information document (F35), was emailed to 83 Public Health Laboratory (5). This inventory was structured in excel format and consist of some parts suchs as general informations, status of buildings, staffs and finally equipments. The inventory provided by laboratories was sent to Head Department of Public Health Laboratories (PHL) via email to evaluating them.

Results

Although the 49% of the buildings belongs to PHL, buildings are very old. That's why this buildings have been taken to investment program. Since departments prefer the significant job groups and circulating capital methods; it is obviously seen that relocation or departing the trained staff was directly affect the motivation and the peace between the workers negatively.

Laboratories have been equipped by the department and therefore the substructure was completed. According to the statistical research, there were an increasing rate of buying total equipment with 75% between the years of 2012-2013, with 40% between 2013-2014 and 9% between 2014-2015. Moreover, the most increasing number of training personnel in between 2014 and 2015 as 46% was observed. As a result of a complete substructure, it is stated that staff needed more and more education.

Conclusion

In the light of our findings, according to the TS EN ISO/17025, substructure was generated to make standardization and labs have been accredited. Furthermore, there have always been studying to decrease deficiencies like equipment, substructure, personnel and education. Hence, this study has been playing a huge role on PHL that to give national and international standard service.

Keywords: Laboratory, building, equipment, personnel, standardization, improvement, accreditation

INTRODUCTION

The most essential element of life, water, can be easily polluted either physical or chemical ways and this directly trigger a lot of illness which cause death. To specify and state the level of pollution and for taking precautions, water gets into chemical and microbiological analyses. There is a 1 HPL per every province except Istanbul. Istanbul have 3 HPL so, Turkey have 83 of it. Laboratories separated to L1 type and L2 type in terms of their substructure and service provided (1).

L1 Type PHL: There are 19 L1 type HPL in Turkey. 3 of it in Istanbul and the rest of L1 in Izmir, Adana, Ankara, Antalya, Bursa, Diyarbakir, Konya, Erzurum, Samsun, Kayseri, Afyonkarahisar, Gaziantep, Van, Nevşehir, Aydin, and Trabzon. Waters for human consumption, thermal waters and pool water are considered at L1 type of PHL in terms of license, controlling, supervision and pursuance specified in regulations(2,3).

L2 Type PHL: Provinces which has no L1 have L2 type PHL. It does microbiological analysis in terms of controlling and supervision specified in regulations about L2.

In the work done, staff distribution, equipment situation was investigated between the years of 2012-2016 and after 2014 there were a new investigation subject has come, status of buildings. Development process and current situation was assembled. It was aimed that there should be a general status testing depends on regulations in terms of PHL and providing the needs and demands in an accurate time basis (4).

MATERIALS AND METHODS

Study design and setting

In the work done, general information inventory, collected by Public Health Laboratory Planning and Coordination Unit's general information document (F35), was emailed to 83 Public Health Laboratory. The inventory provided by laboratories was sent to Head Department of Public Health Laboratories via email to evaluating them (5).

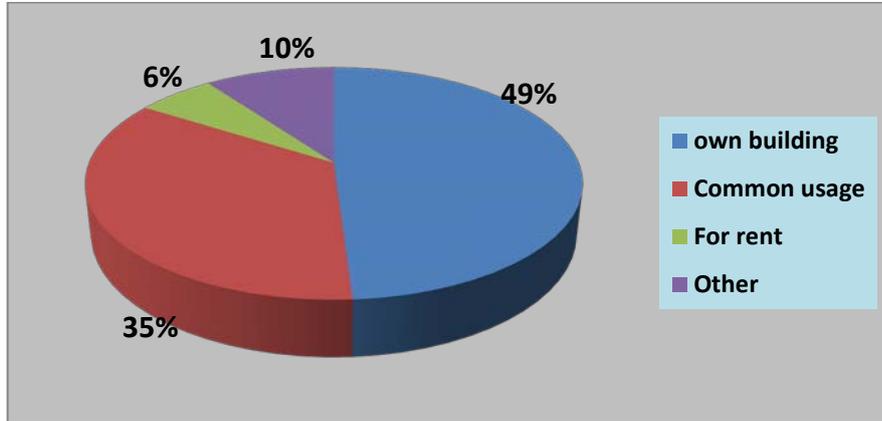
Subjects

This general inventory was structured in excel format and consist of some parts such as general informations, status of buildings, staffs and equipments, demanding training.

RESULT

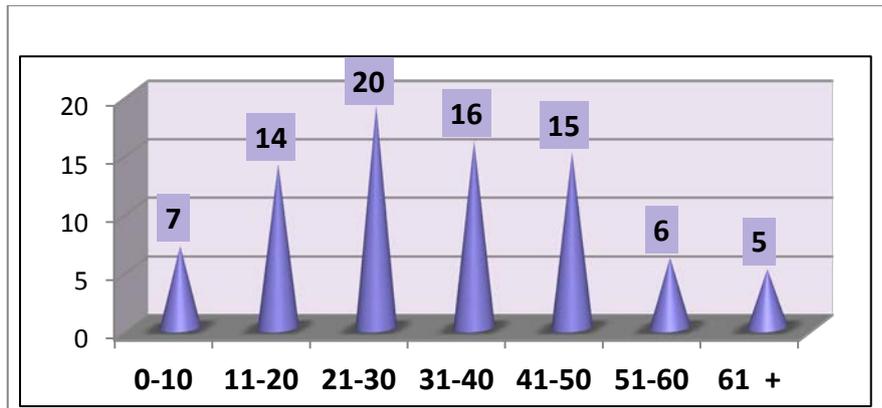
Status of building

49% of the buildings belongs to PHL, 35% of that is for common using, 6% of building have been still hired and the rest of it belongs the other departments (**Graphic 1**).

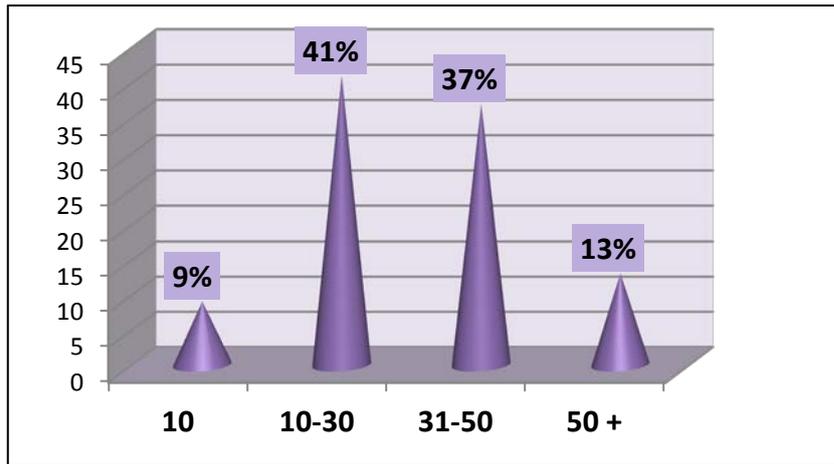


Graphic 1: Building Distribution of Public Health Laboratories

On graphic 2 and 3 it seen respectively the ages of lab buildings and percantange distribution of buildings age.



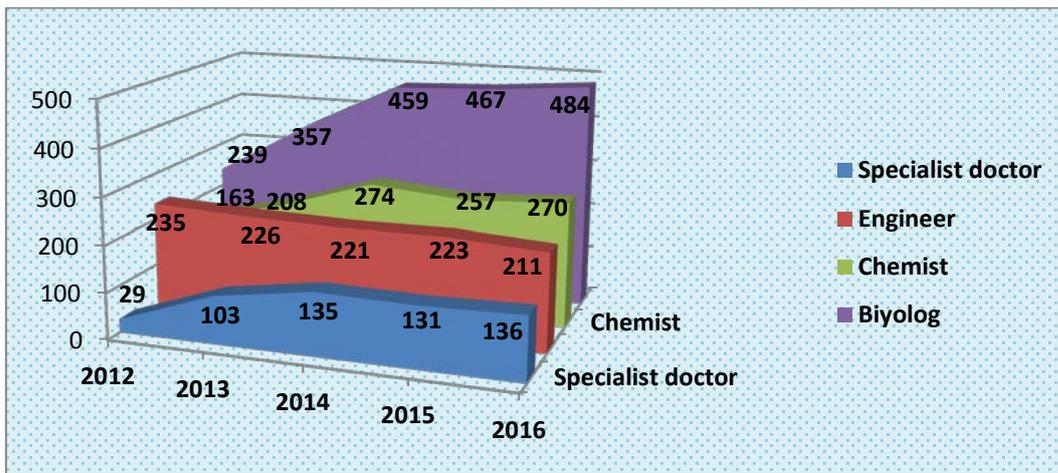
Graphic 2: Laboratory Building Age



Graphic 3:Percentage Distribution of Building Age

Personnel Status

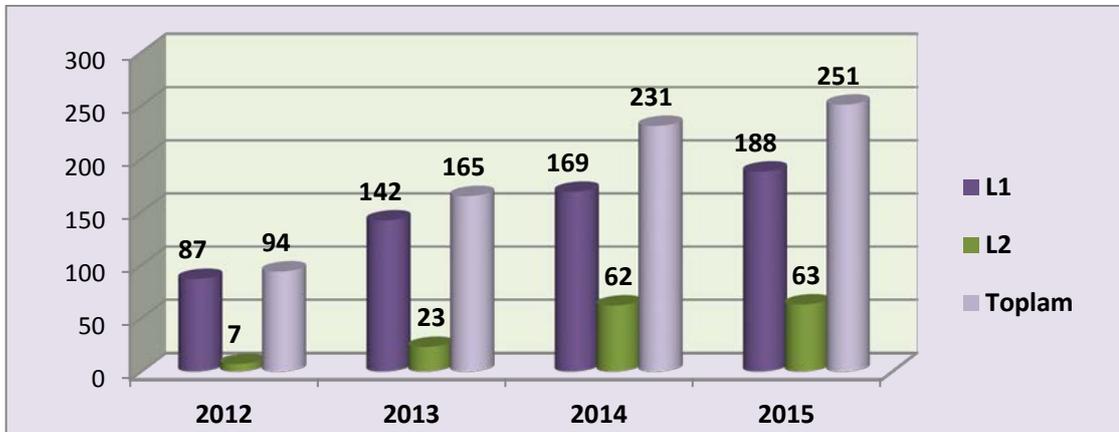
When analysing in terms of profession, it is obtained that 484 biolog, 270 chemist, 211 engineer, 136 expert (microbiologist and biochemmistry) have been studying (**Graphic 4**).



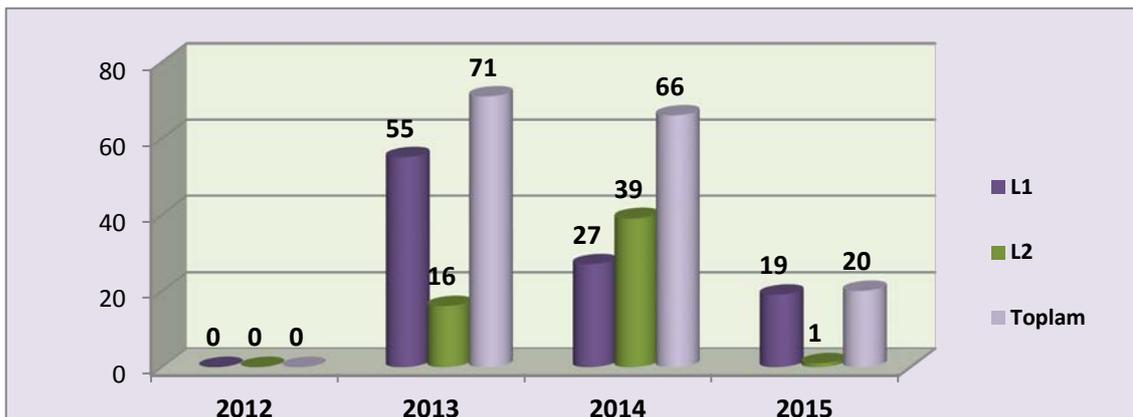
Graphic 4: Personnel Status by Years

Equipment Status

When we have looked at device infrastructure, total number of equipment in L1 and L2 type Public Health Laboratories, 94 device was at 2012, 165 was at 2013, 231 was at 2014 and 251 was at 2015 (Graphic 5). The most number of providing device was at 2013 as 71. Since the equipment substructure had been completed, there was no device taken in 2016 (Graphic 6).



Graphic 5: Laboratory Building Age



Graphic 6: Percentage Distribution of Building Age

Education Status

This research states that the most personnel had been educated in the year of 2015 as 1421 and from 2013 to 2016 3816 staff had been trained in term of their study subjects (Graphic 7).



Graphic 7: Distribution of given education by years

DISCUSSION

Since the buildings are too old, being hired and common using, 21,22 and 34 buildings had taken PHL building investment program respectively the years of 2014,2015 and 2016 (6). Increasing the rate of 49% and recycling the laboratory buildings will have been hoped by this investment. Personnel's relocation and departing have influenced harmfully and especially, it is seen in accredited labs. Analyzing the personnel in terms of their profession, there are increasing rate of more than 100% on biologists, an increasing rate of chemist with 63%, 32% on experts. However, because of department's profession choice, while chemist,biologist and experts rates have been growing, there were a decreasing rate of on engineers with 10% (Graphic 4). Our laboratory personnel was educated in terms of their profession and their demanded subjects. There have been an increasing ratio on educated stuff with 22% between the years of 2013-2014 and 46% between 2014-2015. According to study, the more device was bought (Graphic 6), the more education had been given (Graphic 7). On the other hand, because of all employee had been trained, there were a decreasing ratio on educated personnel with 56% between 2015-2016. The education have given the new comers(7).

CONCLUSION

All data which contains status of bulding, personnel, device and tranings have been collected. Furthermore, this data used for providing the demands of 83 Public Health Laboratories on a timely and accurate basis. Moreover, according to TS EN ISO/17025, it is contributed that experiment and calibration labs had been developed and accredited. In this scope, İzmir, Adana, İstanbul 1,İstanbul 2, İstanbul 3, Ankara, Antalya, Erzurum, Bursa, Samsun, Konya, Tokat, Kayseri had been accredited (8).

Besides, standarts which has international currency used for protection health, increasing customer satisfaction and creating the principles of lab working. The substructure of laboratories have been developing day by day and it will be served in national and international standarts.

Competing Interests

All authors hereby have declared that no competing interests exist.

Authors Participations

Composing general information document, collection of data, evaluation, composing graphics and writing stuff had been made by OP.

Composing general information document, sending the general information to 83 PHL, collection of data and evaluation had been done by MA.

EA confirmed the general information document and the work done.

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