Impact of the implementation of ThinPrep, an automatic liquid-based cytology system, replacing manual liquid-based cytology technology (Cytoscreen System) in a leading French laboratory

Johnny Ayivi CIAC⁽¹⁾, Frederic Cas⁽¹⁾, Martine Paugam CFIAC⁽²⁾, Jean-Jacques Prat CFIAC⁽²⁾, Christine Bergeron MD PhD MIAC⁽¹⁾

(1)Département d'Anatomo-cytopathologie,Laboratoire Cerba, Cergy-Pontoise, France - (2)Hologic France, Villepinte, France

OBJECTIVE

To assess the impact of the implementation of ThinPrep, an automatic liquid based cytology system developed by Hologic in terms of acceptability, productivity and turn-around-time (total processing time per patient file) in the Cerba laboratory.

MATERIAL AND METHODS

The volume processed by the laboratory was approximately 350,000 pap smears. The method involved was the CytoScreen System, a manual liquid-based technique. This method was progressively replaced as from March 2009: two ThinPrep 3000 and one ThinPrep Imager, with 4 ReviewScopes were provided first. The total achieved in December 2009 was 6 ThinPrep 3000 and 5 ThinPrep Imagers, with 24 updated RSM+ ReviewScopes.



ThinPrep TP 3000



ThinPrep Imagers





ReviewScope RSM+



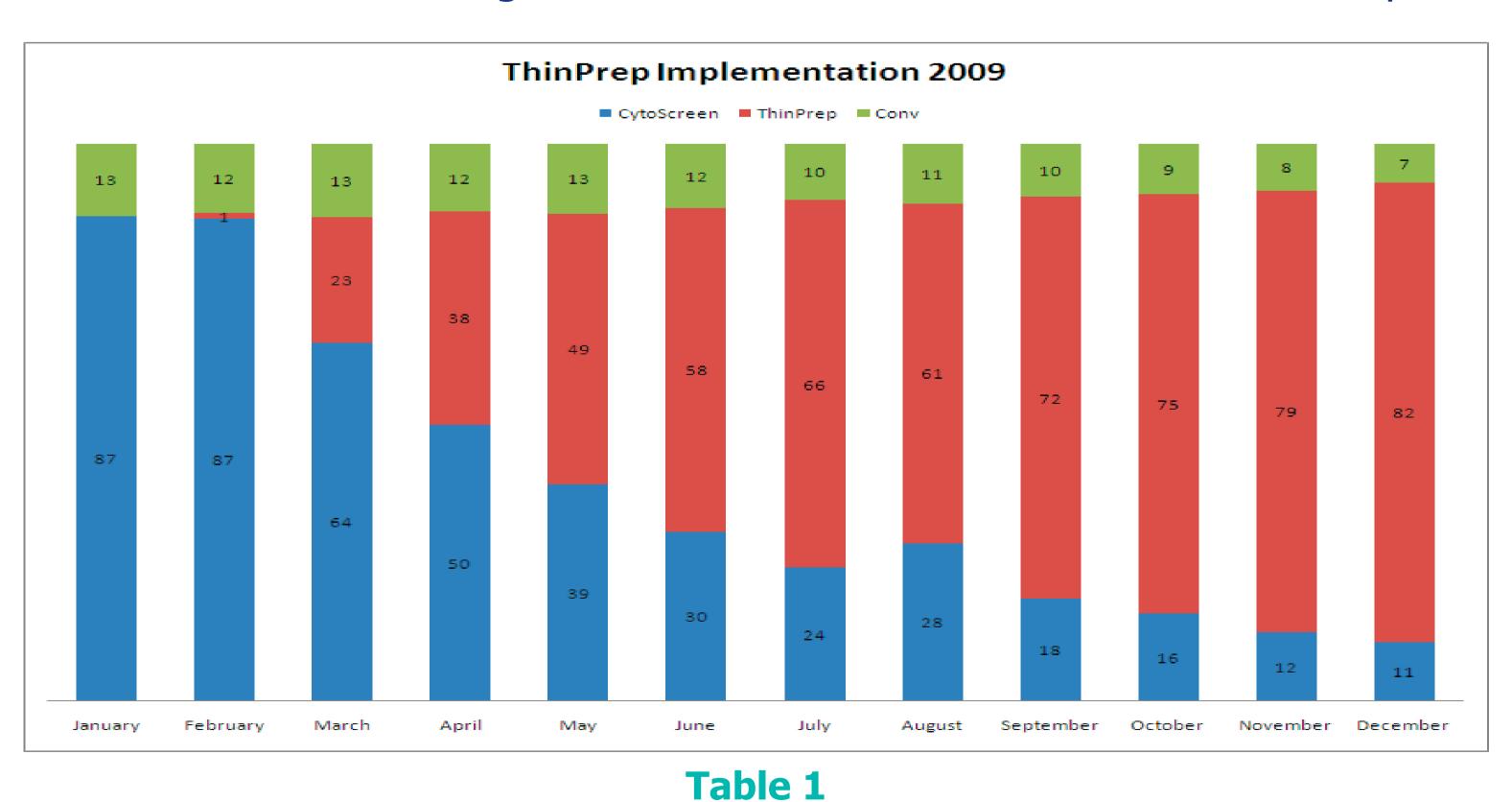
Training on site

As a first step, a didactic presentation of the ThinPrep technology was given to all the staff. After that all the 24 cytotechnologists were trained in the Hologic France Training Center. An additional training was given on the Cerba premises to each cytotechnologist, using their personal RSM+ ReviewScope.

RESULTS

The transition of CytoScreen system to ThinPrep was implemented from March to December 2009, with ThinPrep finally achieving 82 % of the activity (Table 1). A 57 % gain of screening productivity was obtained with ThinPrep. The number of technicians needed to prepare the slides dropped from 7 to 4 for the same productivity.

93 % of the slides forming the usual volume were screened with ThinPrep in 3 days, against 63 % with CytoScreen (Table 2).



Turn-Around-Time 2008/2009 2008

Table 2

CONCLUSION

The implementation of ThinPrep was well accepted by the cytotechnologists. A 57% gain of productivity was achieved and mean turn-around-time was brought down from 7 to 3 days.