EQA SAMPLES SHOULD FLOW THROUGH LIS LIKE PATIENT SAMPLES

Laboratories benefit from directly integrating their LIS to EQA platform

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INTRODUCTION

External quality assessment (EQA) samples should be analyzed following the same process as patient samples. Laboratories receive patient sample analysis requests electronically into their laboratory information system (LIS) and patient results are reported back electronically. EQA sample requests are usually not electronic, and results are reported manually on an electronic result form of the EQA provider. This additional and out-of-the-process step may cause delays, uncertainty or even errors in the EQA result reporting. Integrating LIS directly to EQA portals decreases the manual workload for laboratories and makes result reporting faster and more consistent. It also helps clinical laboratories and point-of-care testing (POCT) sites to meet the requirements of the ISO 15189 standard. It states that pre- and post-examination processes should be included in EQA programs. Labquality, an independent EQA provider, has integrated several LIS to its electronic EQA platform LabScala using standard HL7 messaging. **The aim of this study is to show that directly integrating LIS system to EQA portal for EQA result reporting benefits the participating laboratory.**

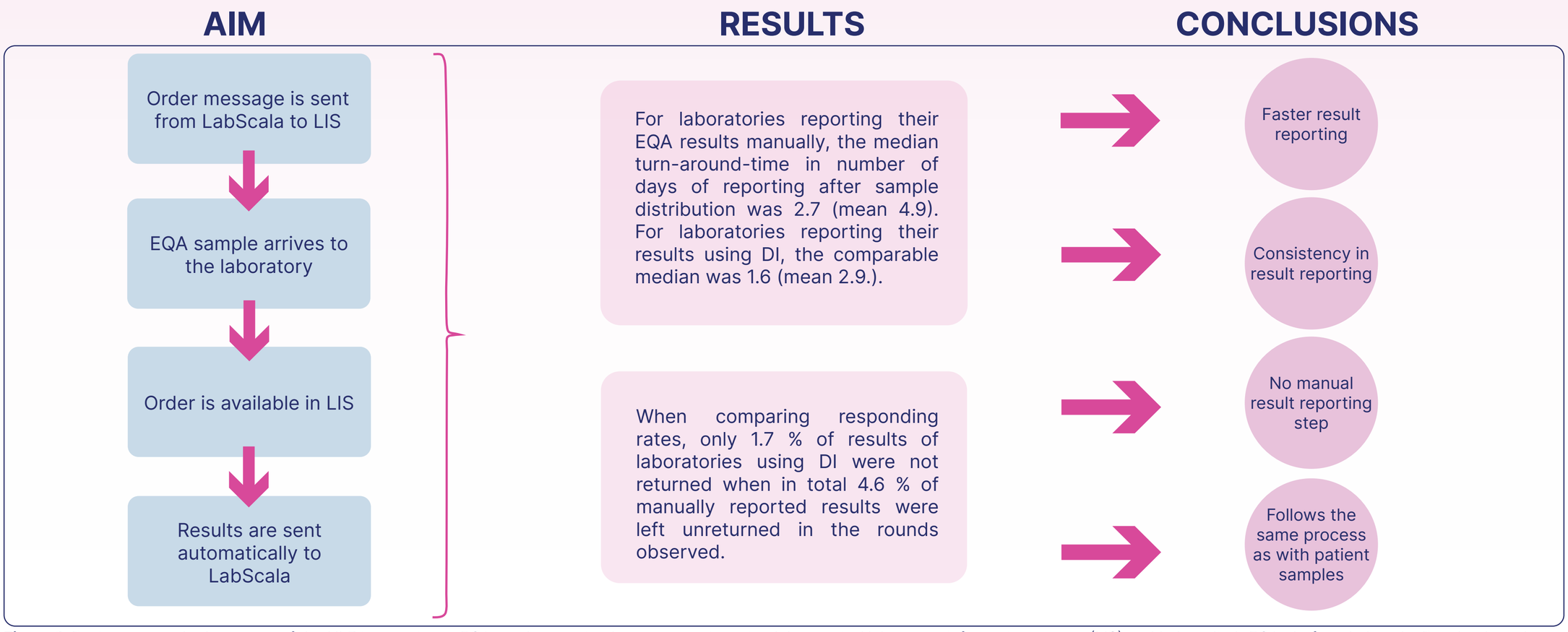

Figure 1. Basic steps and advantages of the HL7 integration in EQA result reporting between participating laboratories' laboratory information system (LIS) and Labquality's EQA platform Labscala. Results data shown in Table 1 and Figure 2.

METHODS

Result reporting of laboratories with direct integration (DI) to LabScala was compared with laboratories reporting their EQA results manually by collecting data from all together 15 EQA rounds (5 Pregnancy test rounds, 5 Troponin I and troponin T, detection rounds and 5 D-dimer rounds) where DI was used during years 2020-2022. 305/4522 (6.7 %) of the results were reported using DI. Parameters investigated were response rates (%) and speed in turn-around-time (number of days) of reporting after sample distribution. Parameters were compared between the groups to investigate the effect of DI on result reporting.

Rounds	Manual participants (n)	Manual results not reported (n)	DI participants (n)	DI not reported (n)	Manual results no-response rate (%)	DI results no-response rate (%)
2/2020	794	51	55	5	6,4	9,1
1/2021	814	44	57	0	5,4	0,0
2/2021	815	38	56	0	4,7	0,0
1/2022	810	26	61	0	3,2	0,0
2/2022	800	25	71	0	3,1	0,0
All rounds	4033	184	300	5	4,6	1,7

Table 1. Response rates compared between manual and DI (Direct integration) results.

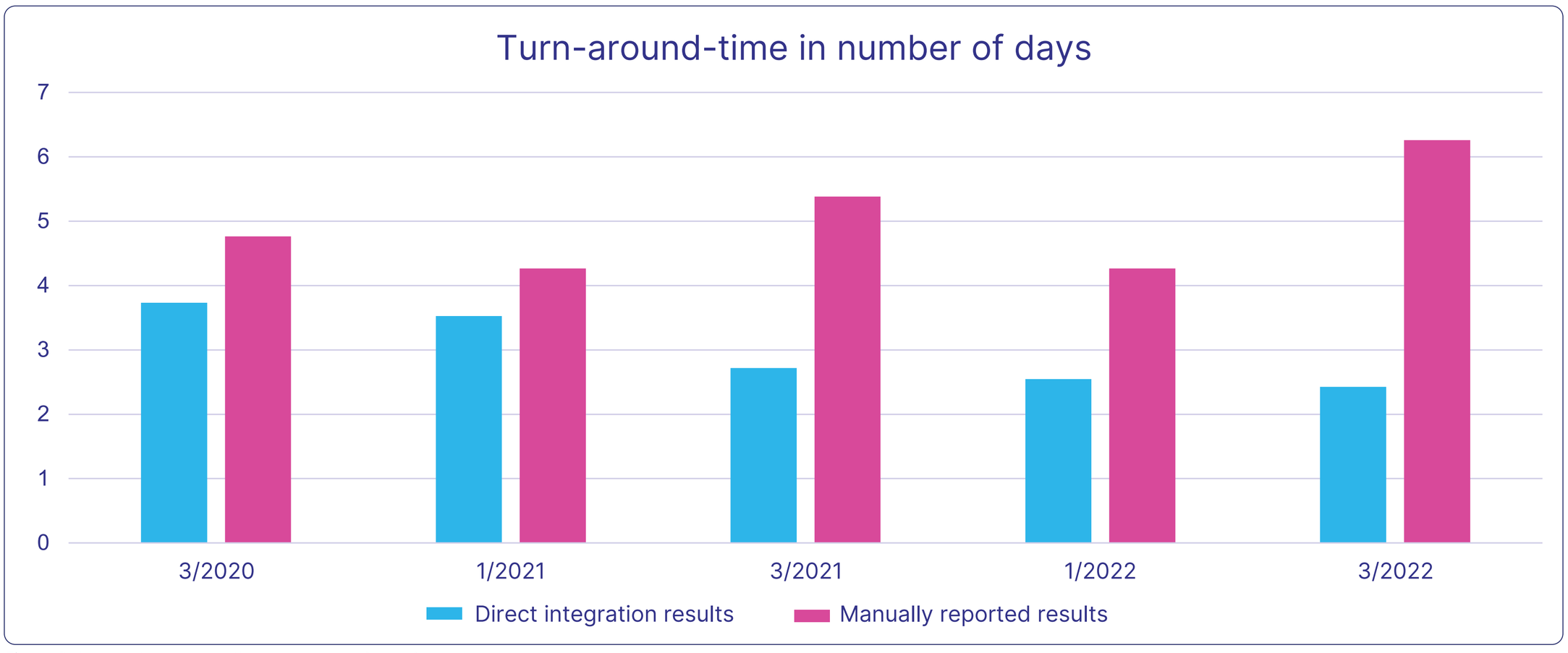

Figure 2. Average turn-around-times in number of days for analyzed rounds.