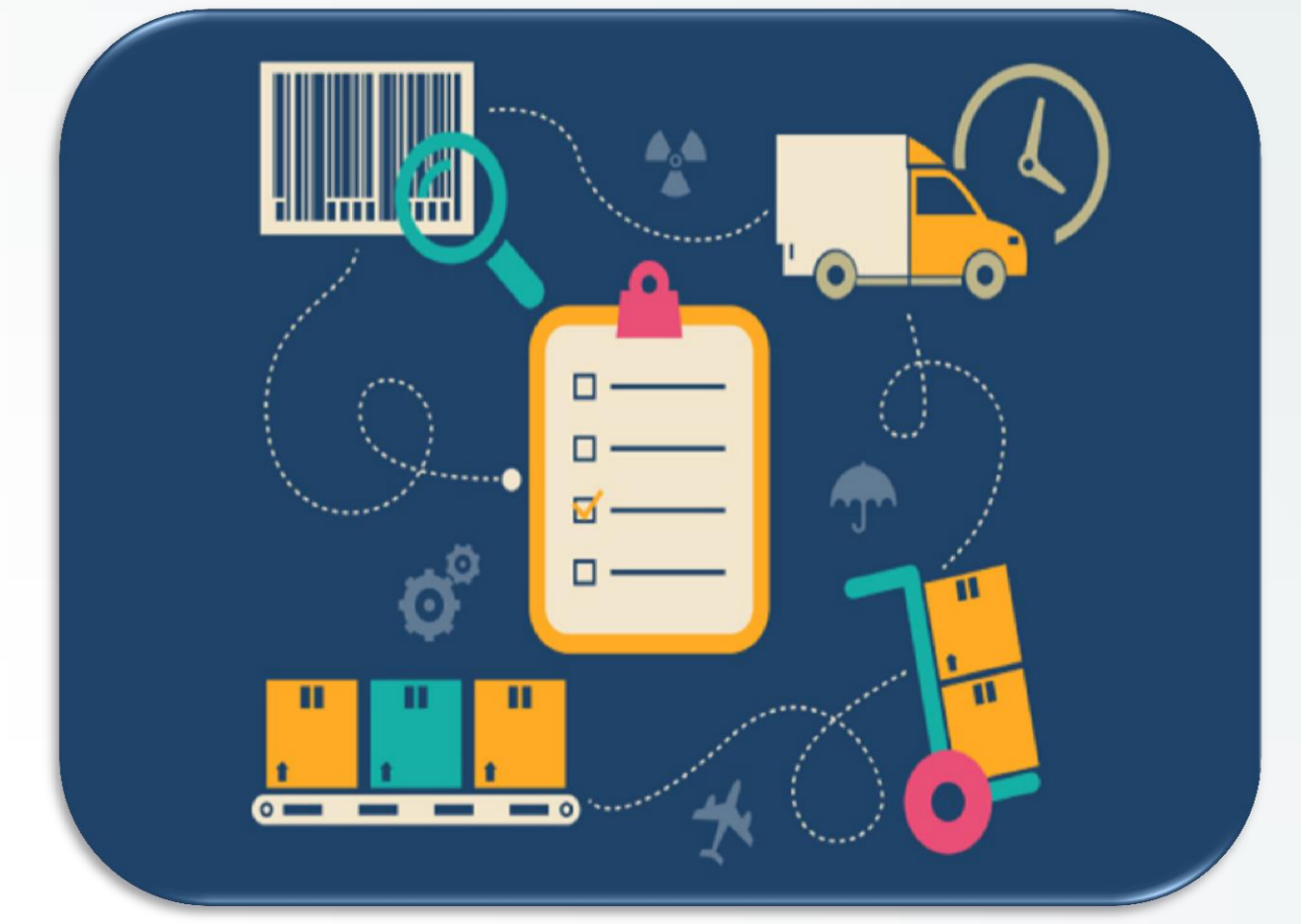


## OBJECTIVES

In a multidisciplinary hospital, [inventory management](#) involves a difficult [balance between risk of out of stock and stock's costs](#). We therefore implemented a new inventory management method in December 2017 taking into account the Pareto law [1].

[The purpose of this economic study is to determine which inventory management model is the most economical.](#)



## METHODS

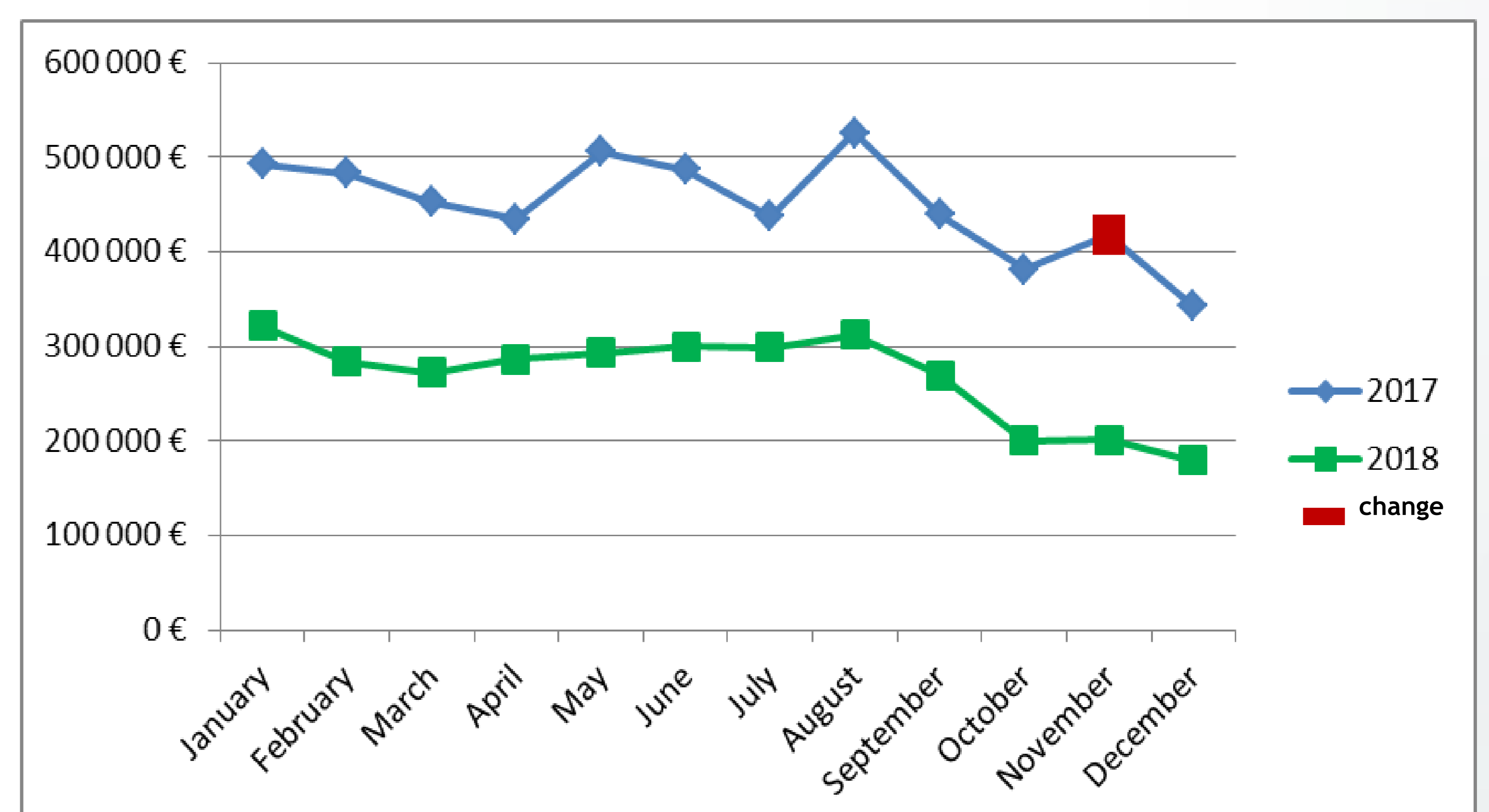


Drug orders previously placed when safety threshold was reached were grouped by laboratory. [A monthly schedule of laboratory orders has been published](#) so that high-cost drugs are processed at the beginning of the month. Quantities ordered make it possible to obtain a [stock equivalent to 1 month of consumption](#). [Stock's value was evaluated](#) with MAGH2® management software retrospectively over the first 5 months of the years 2017 and 2018. During the same period, [monthly orders made were evaluated](#). We performed a statistical test comparing stock value averages before and after management change. [We compared overall cost of placing orders before and after this management change.](#)

## RESULTS

The average decrease in the stock's value observed after modification of inventory management mode is 38%. [The difference between the averages observed before and after this change is significant](#) at alpha risk = 5% and the assumption that the [value of the stock is significantly lower](#) when the Pareto law is taken into account is verified. Order's cost was evaluated at 60€ per an order. Before implementation of the monthly calendar grouping specialties of the same laboratory in a single day, the average number of monthly orders was 258 orders. Then the average number of monthly orders has decreased to 202 orders. [The average monthly cost of placing an order has been reduced by 3360 euros thanks to the monthly order calendar.](#)

Difference between the averages observed before and after the optimization of the inventory management :



2017 Stock's values (€)													
ACCOUNT	ACCOUNT NAME	January	February	March	April	May	June	July	August	September	October	November	December
H60211	"SPEC. PHARMA AVECA .M.M hors liste"	320 179	334 113	298 545	269 953	349 098	326 120	269 591	375 066	310 021	268 789	272 551	221 202
H60212	"SPEC. PHARMA A.M.M sur liste du CSS"	118 198	92 067	90 753	104 929	94 616	96 545	106 820	82 802	64 527	43 214	78 127	67 699
H60213	"SPEC. PHARMACEUTIQUES SOUS ATU"	18 660	18 586	20 423	18 552	18 507	18 721	18 843	20 737	18 291	22 311	22 311	18 353
H602181	"PRODUITS DE DESINFECTION"	9 571	9 413	11 323	11 312	10 125	8 916	10 038	9 660	10 841	13 628	11 423	8 384
H602212	"Pansements"	8 230	9 385	10 211	9 413	9 709	10 035	8 077	10 518	9 395	10 268	9 065	8 617
H602214	"Drapage bloc opératoire"	3 292	3 933	4 946	3 699	4 177	4 643	3 212	4 648	4 507	4 852	3 854	3 179
H60223	"DISPOSITIFS MEDICAUX STERILES AU"	13 939	15 413	16 610	16 118	19 705	21 671	20 997	19 636	18 758	16 352	18 559	14 985
	AMOUNT	492 069	482 910	452 957	434 220	505 937	486 651	437 578	525 986	439 034	381 324	417 831	342 421

2018 Stock's values (€)													
ACCOUNT	ACCOUNT NAME	January	February	March	April	May	June	July	August	September	October	November	December
H60211	"SPEC. PHARMA AVECA .M.M hors liste"	207 844	193 262	190 749	195 468	191 664	216 524	230 657	237 559	202 798	127 945	154 383	128 807
H60212	"SPEC. PHARMA A.M.M sur liste du CSS"	59 964	38 081	30 479	39 215	46 469	28 286	16 171	18 712	13 411	17 524	12 205	20 274
H60213	"SPEC. PHARMACEUTIQUES SOUS ATU"	18 757	18 970	19 146	20 773	22 615	21 516	20 930	22 315	20 480	26 563	30	2 858
H602181	"PRODUITS DE DESINFECTION"	7 053	7 503	7 397	5 787	9 694	6 894	6 084	5 590	6 197	5 999	6 021	4 192
H602212	"Pansements"	9 774	8 934	8 816	9 237	8 745	10 201	9 824	11 058	11 548	10 434	11 615	9 307
H602214	"Drapage bloc opératoire"	3 797	2 821	2 730	2 659	2 198	3 469	2 849	2 766	2 225	1 950	2 361	2 373
H60223	"DISPOSITIFS MEDICAUX STERILES AU"	14 570	13 890	12 676	10 911	11 310	13 179	12 413	13 347	12 954	11 133	13 074	11 000
	AMOUNT	321 759	283 461	271 993	284 050	292 695	300 068	298 928	311 345	269 614	201 547	199 689	178 812

## DISCUSSION

The change in inventory management has allowed us to improve our practices. The implementation of this new mode of operation has been slow to set up. High-performance computing tools could have enabled us to perform this work using inventory management software, however computer flow problems were diagnosed, [making it impossible to set up ordering recommendations](#). In addition, the decrease in the value of the stock can also be explained in part by a decrease in the hospital's activity. Meanwhile, we find that [the financial immobilization attributable to the pharmacy stock is stabilized during the year 2018.](#)

## CONCLUSION

This inventory management method has enabled our Domestic Pharmacy to reduce the cost of holding stock, [limit the number of stockouts](#) at Pharmacy, and [reduce the overall cost of placing orders](#). It would be interesting to complete this study by accounting for the reduction in billing time resulting from the reduction in the number of invoices.

