

# ANTIMICROBIAL STEWARDSHIP: WHAT IF EVERYTHING IS ON YOUR SCREEN?

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## What was done?

Hospital Pharmacists (HPs) designed and developed software tools to support antibiotic stewardship team's work. Particular developments were:

a) A PC application (GrAD\_calc), in Microsoft excel, to calculate antimicrobial consumption, instead of ABC\_calc tool. GrAD\_calc takes advantage of the unique codes for each branded product and transforms aggregated data, provided by the Hospital Information System\* (HIS), into antibiotic consumption in DDDs/100 occupied bed-days. Results are presented in charts and figures, in a format that enables ease comparative monitoring over time.

b) Necessary indexes of the above calculator and documentation needed as justification for restricted antimicrobials dispensing have been integrated into the HIS; in result, data for national surveillance program for antimicrobial consumption area automatically exported. Useful information for pre and post-prescription review, like demographics, indication(s), co-morbidities, current and previous treatments, microbiology tests' results, susceptibility reports, is available and easily accessible to prescribers, HPs, and infection disease specialists.

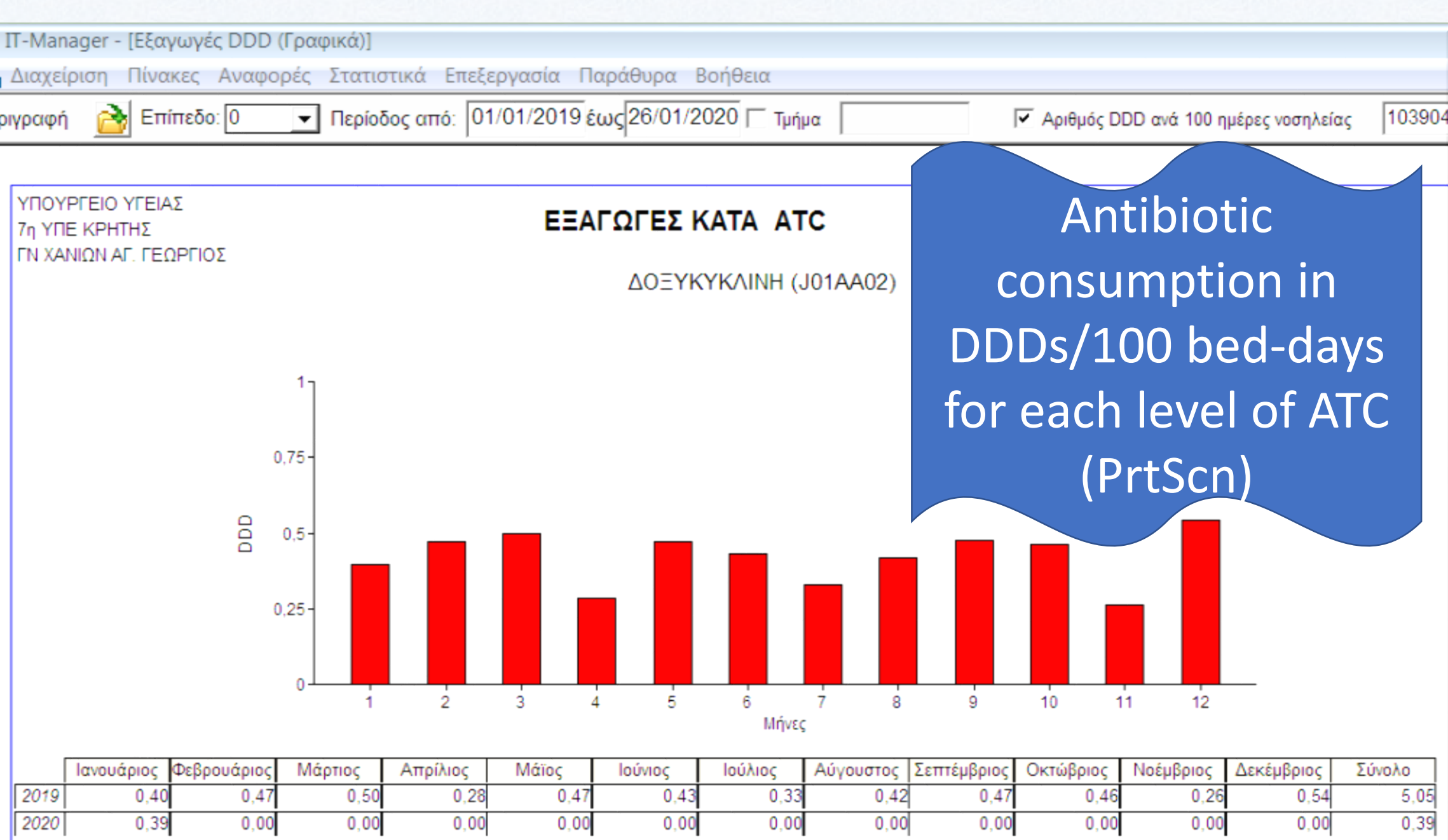
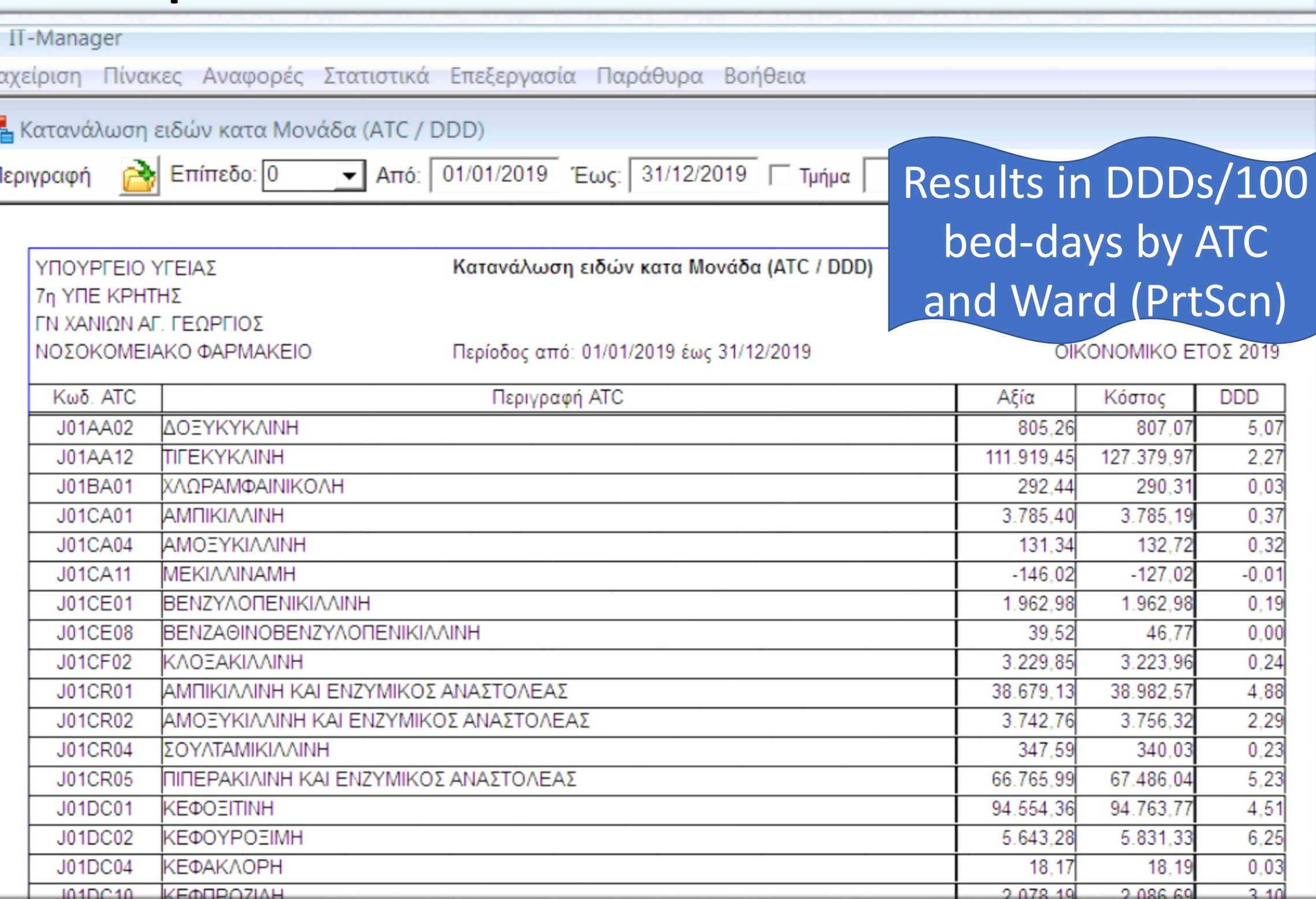
\*Hospital\_ES®

## How was it done?

HPs created GrAD\_calc on their own resources, while changes in HIS were made by ICT service provider\*, following technical specifications described by HPs. A number of technical problems have been resolved with the contribution of HPs.

\*ORCO Organization & Computing SA

## Automatically exported data from HIS for antimicrobial consumption



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AGGREGATED DATA ENTRY

AGGREGATED DATA ENTRY: No of tablets, amp, vial etc

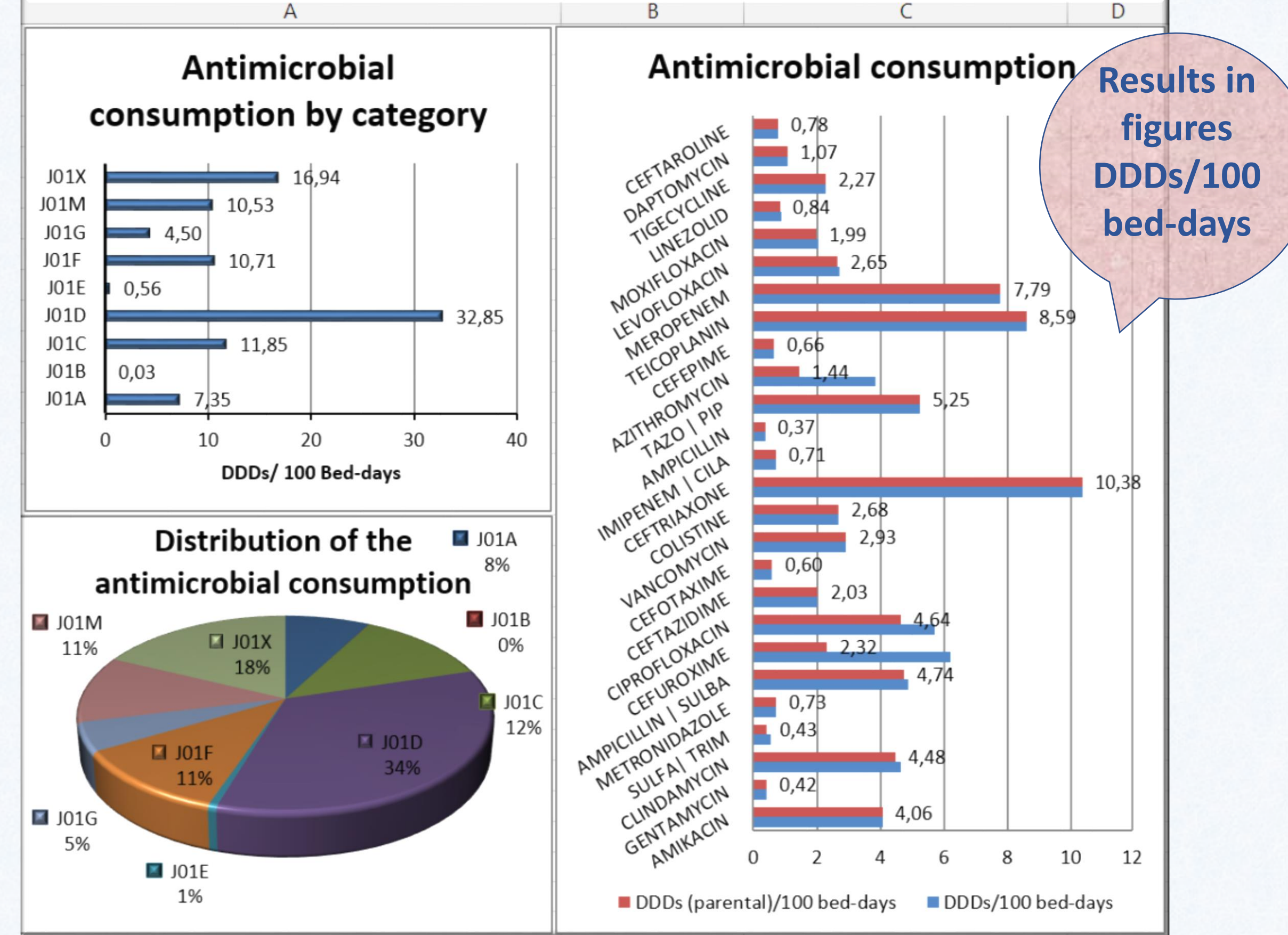
PC application (GrAD\_calc)

Results in tables DDDs/100 bed-days

DATA ENTRY: No of bed-days

Medicine's unic code or barcode	No of single doses	Description	DDD's	ATC
23160602	12	FUCIDIN F.C.TAB 250MG/TAB	2,00	J01XC01
23410102	5249	VIBRAMYCIN DISP.TAB 100MG/	5249,00	J01AA02
23540901	693	DALACIN-C CAPS 300MG/CAP	173,25	J01FF01
28030602	319	BACTRIMEL TAB (800+160)MG/	132,92	J01EE01
28030702	2164	BACTRIMEL INJ.SO.INF (400+80	450,83	J01EE01
38310202	80	CHLORANIC DR.PD.INJ 1G/VIAL	26,67	J01BA01
58920301	5802	BEGALIN-P DR.PD.INJ (500+100	967,00	J01CR01
58920401	11887	BEGALIN-P DR.PD.INJ (1000+20	3962,33	J01CR01

Antibiotic	DDD's/100 bed-day's	DDD's (parental)/100 bed-days	ATC	No of bed-days
2	0,00	0,00	J01XE01	103904
3	0,00	0,00	J01CE02	
4	4,06	4,06	J01GB06	
5	0,00	0,00	J01FA01	
6	0,42	0,42	J01GB03	
7	0,00	0,00	J01XC01	
8	5,05	5,05	J01AA02	
9	4,64	4,48	J01FF01	
0	0,56	0,43	J01EE01	
1	0,73	0,73	J01XD01	
2	0,03	0,03	J01BA01	
3	4,89	4,74	J01CR01	



## Why was it done?

Implementation of antimicrobial stewardship programs in hospitals is part of the national strategy to promote prudent use of antimicrobials. As HPs chair stewardship teams, they are responsible for assessing prescription and monitoring antimicrobial use. Designing and developing automated informative tools facilitates HPs in their role.

## Electronic documentation needed as justification for restricted antimicrobials dispensing

## What has been achieved?

- Monitoring of antimicrobial use by pharmacists is quicker and effortless.
- Handwritten documentation included in restricted antimicrobials' prescriptions has been replaced by an electronic decision support system, as tool to improve antimicrobial prescribing and stewardship. Useful information from patient's medical record is directly available to HPs and physicians, and facilitates hospital's policy for assessing antimicrobial prescriptions.
- Data, like indication, medicine, dosage scheme, microbiology results and susceptibility reports, are recorded electronically and update patients' pharmaceutical records, permitting further use for pharmaco-epidemiology studies.

Demographics

Current and previous treatments

Microbiology tests' results

Indication(s), co-morbidities etc

PrtScn

Printed documentation

Susceptibility reports

## What next?

Next challenge is wide use of tools developed, to optimize pharmaceutical services provided and dispense restricted antibiotics only when accordingly justified. GrAD\_calc is applicable in hospital setting and HIS's tool is incorporated and can be used by all regional hospitals.

