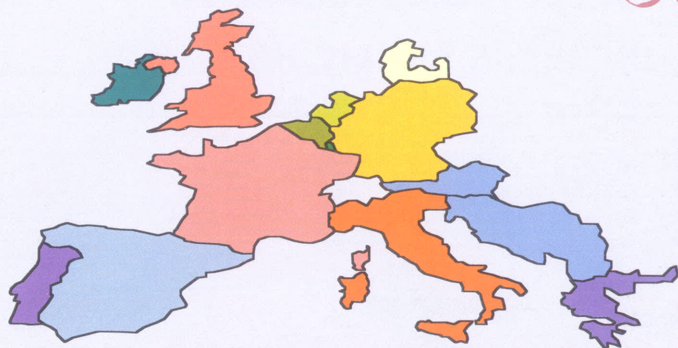
Pharmceutical Care



Facts and Figures

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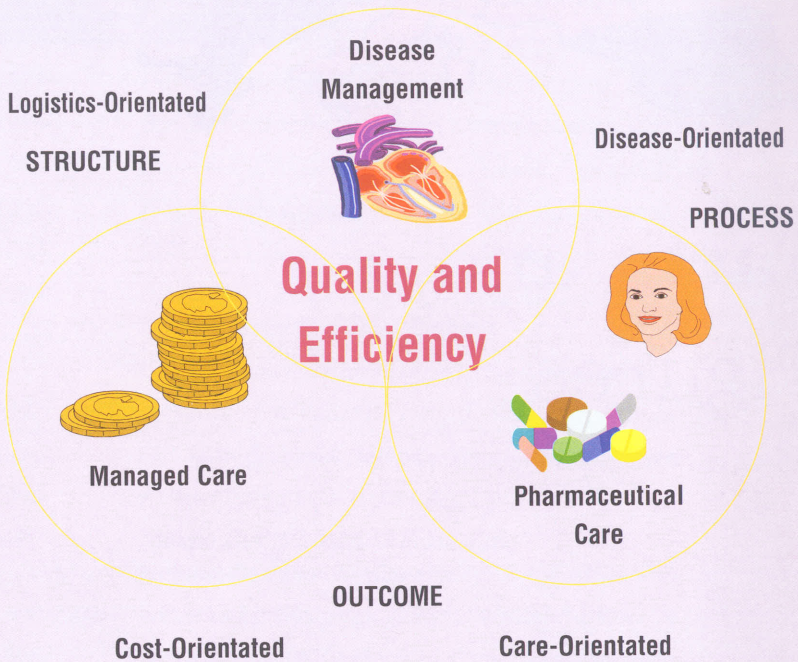
(www.arzneimittelepidemiologie.de or www.consumer-health-care.de)

PGEU Symposium 2002
Changing Demands in Health Care
11 June 2002, London, UK

HOW TO PUT STRATEGIES TOGETHER

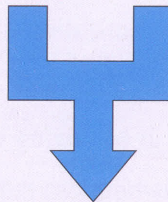
SELECTED CONCEPTS TO INCREASE PUBLIC HEALTH



THE EVOLUTION OF PHARMACEUTICAL CARE

Change in the risk-benefit evaluation (Thalidomide 1961)

Shortage of resources for health care



Information technology + Global activities

1988: WHO recommendation for a patient orientated pharmacy

1990: Definition of Pharmaceutical Care by Hepler and Strand

1993: Guide to Good Pharmacy Practice of the F.I.P.

1994: Foundation of the Pharmaceutical Care Network Europe

1994: First studies of Pharmaceutical Care in Europe

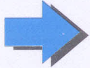
1996: Task force for implementing Pharm. Care into the curriculum

1996: Revised Guide to Good Pharmacy Practice of PGEU

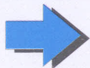
1998: F.I.P. Statement Pharmaceutical Care

1999: First international working conference on Pharmaceutical Care

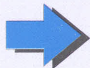
WHAT IS NEW ABOUT PHARMACEUTICAL CARE?



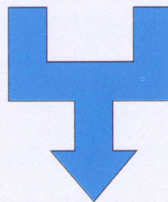
Pharmacy based systematic review and individualised optimization of a patient's drug use in cooperation with the physician for the purpose of achieving definite outcomes with regard to symptoms, therapeutic efficiency and patients' quality of life



Documentation of the care process and its outcome (medication history and profile)



Development of standardized care protocols



EVIDENCE BASED PHARMACY

CRUCIAL QUESTIONS OF PHARMACEUTICAL CARE

1. Do the studies on Pharmaceutical Care give sufficient evidence for the benefit of the service?

2. How can we improve the methodology and the study design in order give better evidence?

3. Which are the main impeding factors of implementation? How can they be overcome?

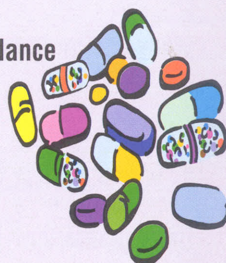
4. How to make sure that physicians support Pharmaceutical Care rather than neglecting it?

DIRECT AND INDIRECT BENEFICIAL EFFECTS OF PHARMACEUTICAL CARE

- Early detection of diseases / earlier transfer of patients to doctors

İndividual optimization of current therapy

- Checks for indications and contraindications
- Checks for interactions
- Checks for compliance/adherance/concordance
- Checks for suitable dosage regimen
- Checks for double prescription
- Checks for adverse drug reactions

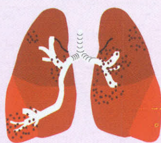
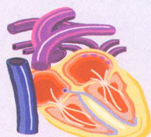
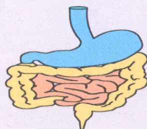
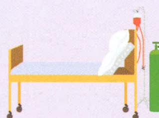


- Initiating an appropriate change in medication
- Special care after release from a hospital
- Improving knowledge, strenthening the self responsibility of patients

1. Avoiding fatal consequences of improper drug use,
2. Improving the outcome of drug therapy

WHICH DISEASES ARE MOST SUITABLE FOR PHARMACEUTICAL CARE?

- Early detection is possible and therapeutically important
- Symptomatic and chronic diseases
- Compliance is important for therapeutic outcome
- Combination therapy prevailing
- Frequent change between hospital and ambulatory care
- High demand for communciation and care
- Individual dose adaptation or monitoring required
- Comparatively high prevalence of adverse drug reactions
- Motivation for concomitant therapy required
- Disease "eligible" for disease management programmes

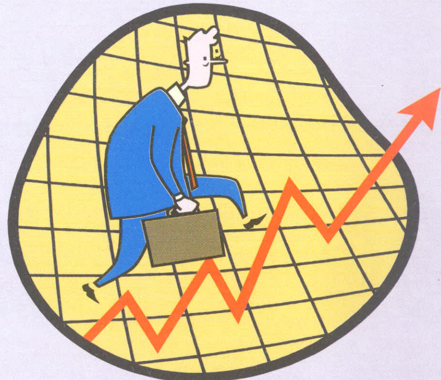





PHARMACEUTICAL CARE STUDIES IN EUROPE

- TOM Asthma (DK, NL, UK, BG, D)
- OMA/Elderly (Biomed-Studie: UK, NL, DK, D, S, P, IR) supported by PCNE
- Diabetes Type - II
- Hypertension
- Angina pectoris
- Elevated lipid levels

STUDIES PLANNED OR IN PROGRESS:

- Congestive Heart Failure (Biomed bid)
- Neurodermatitis
- Osteoporosis
- Arthritis



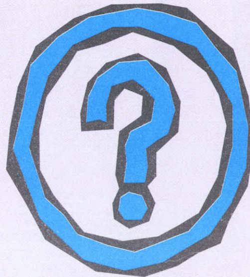
PHARMACEUTICAL CARE STUDIES OFTEN SHOW

- Tendencies of improvement which are not statistically significant (pre-post and case-control comparison)

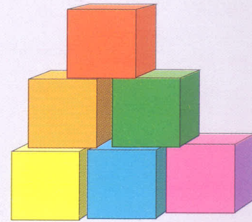
- Improvements of the health-related quality of life only in some of the dimensions which are leveled off when aggregated to an index

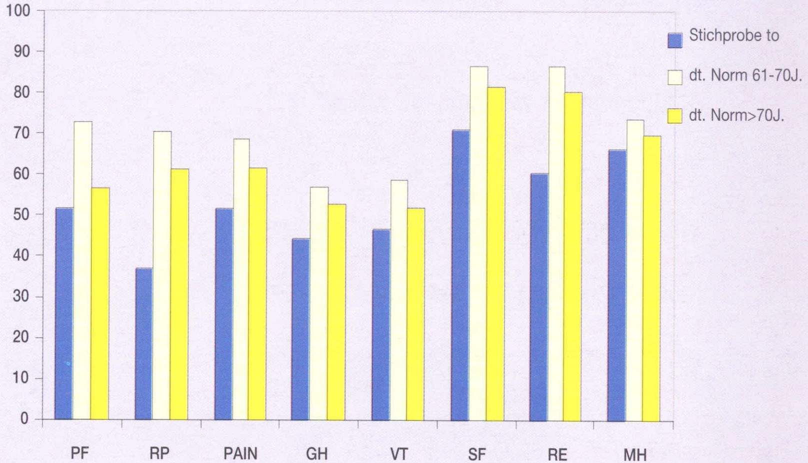
- Improvements which do not always last

- Improvements of knowledge which does not necessarily lead to a change of behaviour



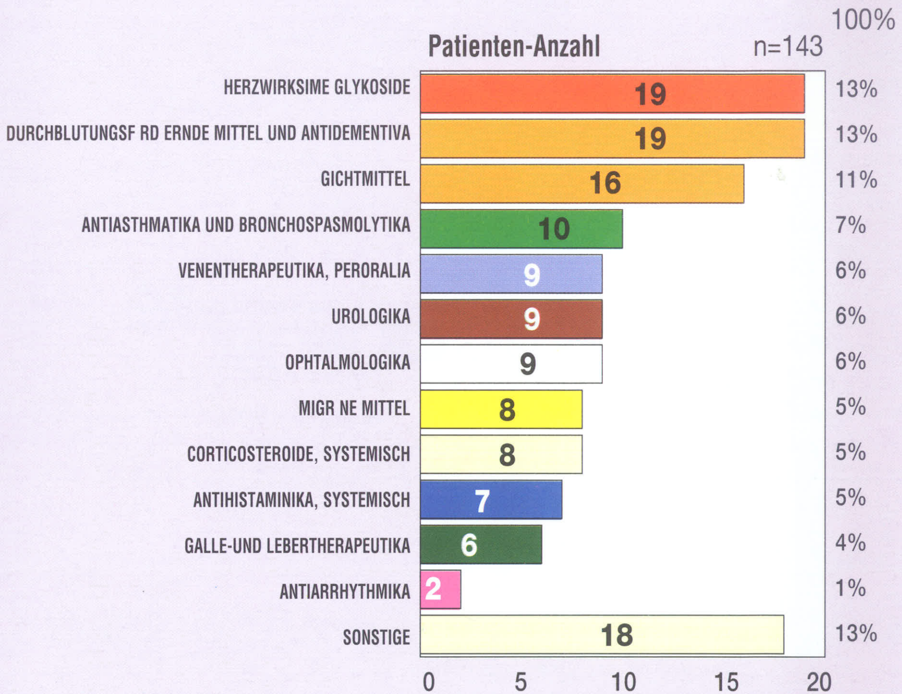
HEALTH-RELATED QUALITY OF LIFE IN DIFFERENT SAMPLES (SF 36)





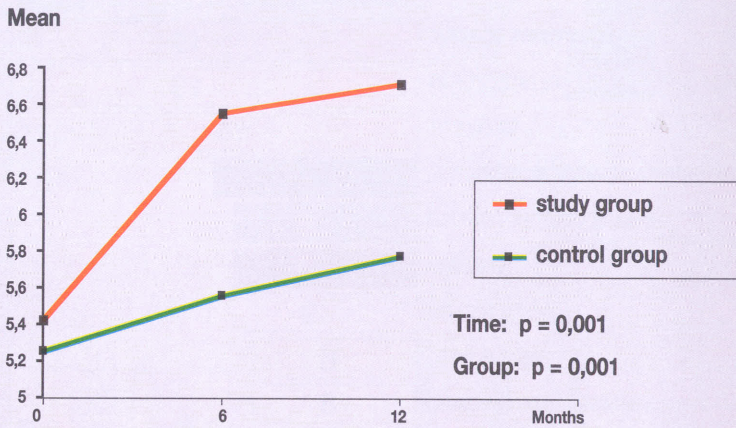
A. Winterstein, Thesis Humboldt-University Berlin 1999
(Chamber of Pharmacists of Westfalen-Lippe)

STUDY IN BRANDENBURG 1997-2000
ANALYSIS OF CO-MEDICATION
(n=143)



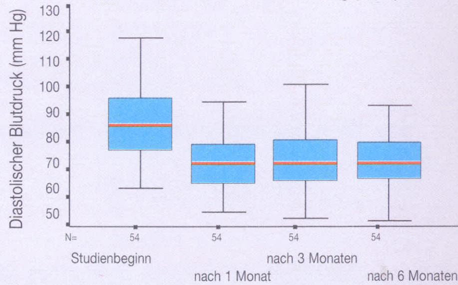
Ralf Goebel, Thesis, Humboldt University Berlin 2002
(Chambers of Pharmacists of Thuringia and Brandenburg)

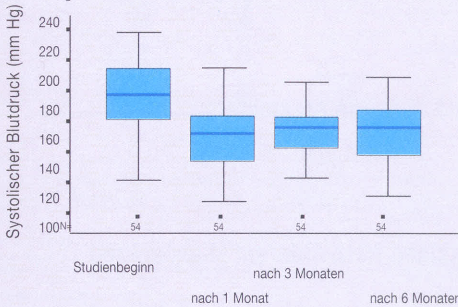
INHALATION TECHNIQUE



Center for Pharmacy Information and Pharmacy Practice (ZAPP), Germany 2000
ABDA, Chamber of Pharmacists of Hamburg

PATIENTS WHO MEASURED THEIR BLOOD PRESSURE (n=54)





t(0) systole : 167,3-3,5 mm Hg ; diastole : 100,7-1,7 mm Hg
t(1) systole : 140,4-2,2 mm Hg ; diastole : 85, - 31,5 mm Hg
t(3) systole : 141,1-2,4 mm Hg ; diastole : 85, - 91,2 mm Hg
t(6) systole : 141,4-2,2 mm Hg ; diastole : 87, - 91,5 mm Hg

Ralf Goebel, Thesis, Humboldt University Berlin 2002
(Thuringia and Brandenburg)

CONCLUSIONS FOR PHARMACEUTICAL CARE STUDIES

- Tight study design (only one or few research questions)

- Well defined intervention based on understanding of the disease

- Definition of process indicators to measure intensity of care

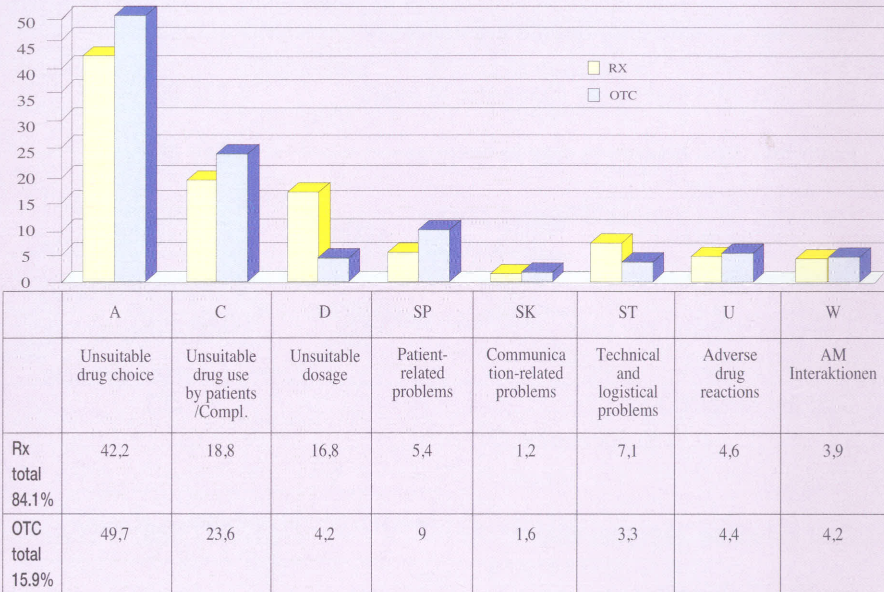
- Clearly defined and suitable outcome parameters

- Comparison of outcomes gained from different study setting

<u>Same</u> steps and methods

<u>Different</u> focus dependent on indication

% FREQUENCY OF DRUG-RELATED PROBLEMS (Rx AND OTC) n=3007, CHAMBER OF PHARMACISTS OF BAVARIA, 1998



	A	C	D	SP	SK	ST	U	W
	Unsuitable drug choice	Unsuitable drug use by patients /Compl.	Unsuitable dosage	Patient-related problems	Communica tion-related problems	Technical and logistical problems	Adverse drug reactions	AM Interaktionen
Rx total 84.1%	42,2	18,8	16,8	5,4	1,2	7,1	4,6	3,9
OTC total 15.9%	49,7	23,6	4,2	9	1,6	3,3	4,4	4,2

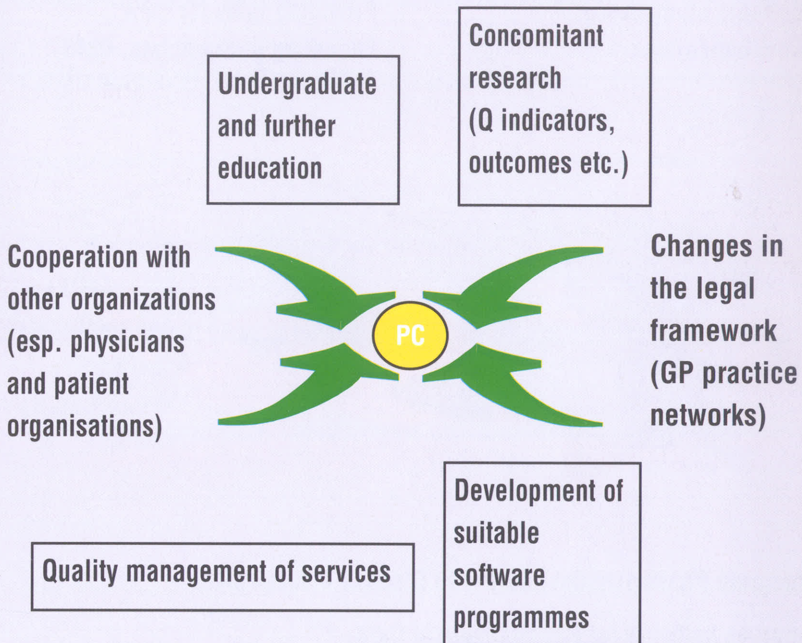
Visit of a physician recommended: 13,2%(OTC) and 4,2% (Rx)
Contact between pharmacists and physician 70% (Rx) (n= 632, 1995)

ESTIMATE OF AVOIDED COSTS FOR DRUG-RELATED PROBLEMS DETECTED BY A SYSTEMATIC DRUG REVIEW (GERMANY)

Number of prescriptions per year	470,000,000
From that 2% with drug-related problems	9,400,000
From that 30% potentially dangerous to health	2,820,000
From that 30% leading to stay in hospital	846,000
Form that 30% avoidable by drug review	253,800
7 days in hospital per case	908,375
Cost per hospital day	291
Cost reduction (hospital stay)	517,777,380
Per year by avoiding	
drug-related problems	

Source: Kommunikationsplattform im Gesundheitswesen. Kosten-Nutzen-Analyse: Neue Versichertenkarte und Elektronisches Rezept, May 2001

STEPS TO A COMPREHENSIVE IMPLEMENTATION OF PHARMACEUTICAL CARE



☛ Cooperation between universities and professional organisations!

WHAT DO WE HAVE TO DO TO SUPPORT THE IMPLEMENTATION OF PHARMACEUTICAL CARE?

More findings from studies	Strategies for implementation
- Suitable study desigs - New indications	- Providing facts for care - Educating pharmacists, QMS

- Integrate Pharmaceutical Care into Disease Management
- Improve software for Pharmaceutical Care
- Improve documentation and data quality
- Develop strategies for continuous data evaluation

Provide convincing evidence for decision makers

BARRIERS IN PHARMACEUTICAL CARE

- Time/Workload
- Cooperation with the physician an physicians approval
- Cooperation with the patient and patients approval
- Insufficient information
- Lack of employment in cognitive services
- Undetermined economic outcome
- Motivation

Most of these barriers could be overcame by using information technologies

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1969-1973- Study of Pharmacy at Martin - Luther - University, Halle

1973- Diploma

1977- Ph.D. at Martin - Luther-Universität, Halle

1984- Habilitation at Humboldt-University, Berlin

since 1985 teacher of Social Pharmacy at Humboldt University

1991-	*visiting Professor at the School of Pharmacy in Philadelphia, U.S.A*
1992-	*visiting Professor at the School of Pharmacy in Utrecht TheNetherlands*
1990-	*Head of the section "General Pharmacy" within the German Pharmaceutical Association (DPhG), since 1996 also head of the working group of Pharmacoepidemiology*
1992-	*Adjunct Assistant Professor at the University of Illinois at Chicago*
1992-	*Member of the Editorial Board of the Journal of Social and Administrative Pharmacy*
1992-	*Member of the Executive Committee of the Section for Administrative Pharmacists of the F.I.P.,*
1998-	*Secretary*
1996-	*Member of the Pharmaceutical Care Networks Europe (PCNE)*
1997-	*Member of the Task Force "Pharmaceutical Care" of the European Associations of the Faculties of Pharmacy*
1998 - 2001	*President of the Working Group Pharmaco-Epidemiology e.V.*
1998-	*Guest Professor of Pharmacoepidemiology and Social Pharmacy at Humboldt - University, Berlin*
1998-	*Member of the Editorial Board of the International Journal of Pharmacy Practice and the European Journal of Pharmaceutical Education*
March 2001-	*Implementation of a postgraduate course "Consumer Health Care" at Humboldt University*
2001-	*Member of the Berlin Center of Public Health*