



The HITH Review

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This fifth issue of the HITH Review mainly focuses on recent articles on cost comparisons of home and inpatient care and antibiotic therapy. In this issue we noted a number of articles that were methodologically flawed. To assist the reader assess the literature we recommend the series 'Users' Guides to the Medical Literature' in JAMA. In each HITH Review we will summarise the highlights of one of these articles.

Most of the articles listed in this review are available from libraries in Australia with some available from journal websites. Articles with an asterisk (★) for educational or research purposes can be requested from VCACI, using the enclosed order form, if you are having difficulty obtaining a copy from your library.

Medline access is available from the NIH Web site at www.ncbi.nlm.nih.gov/PubMed/. Articles specifically on HITH and ambulatory care are listed on the VCACI website.

We would appreciate receiving your feedback on The HITH Review and would welcome any contributions you may wish to share with other practitioners. Please contact us if you wish to be included on our mailing list. The HITH Review is available free of charge in hard copy from the VCACI or can be accessed on the VCACI Web page. Those preferring to receive The HITH Review in electronic format should forward their E-mail address to us.

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Assessing the Literature

Christopher Fairley

Jaeschke R, Guyatt G, Sackett DL. Users' guides to the medical literature. II. How to use an article about therapy or prevention. Are the results of the study valid? Evidence-Based Medicine Working Group. JAMA 1993;270:2598-601. (<http://jama.ama-assn.org/>) ★

This excellent article provides readers with a systematic approach to critically appraising an article about therapy or prevention. We particularly draw the reader's attention to table 1. This table sets out a series of short questions that the reader can use to determine if the results of the study are valid. These questions will for example help you to determine if an intention to treat analysis was used or whether the study was appropriately blinded.

With reference to some articles in this edition of the HITH Review it asks the reader not only for the size of the treatment effect but also about its precision (ie the confidence interval surrounding the estimate). In this HITH Review this information was not provided for some studies- and when calculated for the articles reviewed it is clear that the conclusions of the authors are incorrect.

Costs - substitution of home care for inpatient care

Christopher Fairley

Soderstrom L, Tousignant P, et al. The health and cost effects of substituting home care for inpatient acute care: A review of the evidence. Can Med Assoc J 1999; 160:1151-5. ★

Summary

This article reviews the evidence about the effects of acute home care on the health of patients and caregivers and the social costs of managing the patients in this setting.

Between 1975 and 1989, 14 articles evaluated these factors in acute home care and used a control group. Of the 14 articles that met the selection criteria only 4 satisfied 6 internal validity criteria. These studies looked at hip fracture, hip replacement, chronic obstructive pulmonary disease, hysterectomy and knee replacement.

Compared to hospital care, home care had no notable effects on patients' or caregivers' health. The effect of home care on both social costs and health care costs varied depending on the condition. More well designed evaluations are needed to determine the appropriate use of acute home care.

commentary

This study assessed a complex topic and one that remains poorly studied. Considerably more work is needed using careful evaluations and even randomised studies before the full benefits or harms of acute home care for each condition are fully understood.

Costs, efficacy and safety- comparing inpatient and outpatient treatment of thromboembolism

Christopher Fairley

Boccalon H, Elias A, et al. Clinical outcome and cost of hospital vs home treatment of proximal deep vein thrombosis with a low-molecular-weight heparin. Arch Intern Med 2000; 160:1769-73. (<http://jama.ama-assn.org/>) ★

Summary

This was a randomised clinical trial comparing outpatient to inpatient low-molecular-weight heparin. The authors claim it is the first published randomised comparison.

The primary end point was recurrent thromboembolism, pulmonary embolism or major bleeding. An economic analysis was undertaken from the point of view of the health insurer.

Two hundred and one patients were randomised (99 to outpatient therapy, 102 to inpatient therapy). Three patients reached an endpoint in the outpatient groups (3%) and 4 patients reached an endpoint in the inpatient group (3.9%). Outpatient management was 56% less expensive than the inpatients.

The authors concluded that outpatient therapy was effective, safe and cost-saving.

commentary

This study has made a classic error in the reporting and interpreting of its data. It claimed that its study demonstrated equivalence of the two strategies but the study as it was presented had no power to make this claim.

The difference between the endpoints was (3.9% minus 3% or +0.9%)- complications were 0.9% more common in inpatients. This result can only be interpreted with the confidence interval around this difference, which is minus 4% to plus 6%. This means that extrapolating from this study to all patients receiving such therapy, it is possible that complications may be 4% more common in outpatients or 6% more common in inpatients. Given these wide confidence intervals it would be incorrect to interpret this trial result as indicating complications were equivalent.

The authors do provide a sample size calculation but it is flawed because it is based on endpoints occurring in 15% of the hospitalised group while it was 5 times less common in the real study.

On the basis of this study alone, it is not possible to interpret these results as indicating that these two treatment methods are equivalent.

Once daily dosage - meropenem

Christopher Fairley

Darley E, Bowker K, et al. Use of meropenem 3g once daily for outpatient treatment of infective exacerbations of bronchiectasis. J Antimicrob Chemother 2000; 45:247-50. ★

Summary

Nine patients with an infectious exacerbation of bronchiectasis received 3 g of intravenous meropenem daily at home. Pre meropenem concentrations were <0.1mg/L and the mean post-dose concentration (30 minutes after infusion) were 93.9 mg/L.

commentary

This was a small pharmacodynamic study. It reported that 8 of 9 patients were “effectively” treated. This proportion (ie 89%) has a 95% confidence interval of 52% to 100%. It is important to appreciate that this study had no power to report the “effectiveness” of treatment (note the lower 52% confidence interval). The source of funding for this study should have been provided because it is unlikely any independent body would have funded this study to assess efficacy.

Cephalosporins in home care

Lisa Demos

Esposito S. Parenteral cephalosporin therapy in ambulatory care. Advantages and disadvantages. Drugs 2000; 59(suppl 3):19-28. ★

Nathwani D. Place of parenteral cephalosporins in the ambulatory setting. Clinical evidence. Drugs 2000; 59(suppl 3):37-46. ★

Strehl E, Kees F. Pharmacological properties of parenteral cephalosporins. Rational for ambulatory use. Drugs 2000; 59(suppl 3):9-18. ★

Tice AD. Pharmacoeconomic considerations in ambulatory use of parenteral cephalosporins. Drugs 2000; 59(suppl 3):29-35. ★

Summary

This supplement on home based treatment with parenteral antibiotics includes articles by authors from USA, UK, Germany and Italy. The main focus of the supplement is parenteral cephalosporins in home based care or more specifically ceftriaxone, which is quoted as the most widely, prescribed antibiotic in outpatient treatment worldwide. The most frequently used parenteral antibiotics for outpatient therapy in the USA are vancomycin and beta-lactams whereas in Europe teicoplanin is more commonly prescribed than vancomycin.

The overseas experience with home parenteral antibiotic therapy is based on patient or carer intravenously or as in the case of Italy intramuscularly administered therapy. This self-administration model offers considerable cost savings though additional staff time is required for patient training and there may be a greater reliance on expensive infusion devices.

This supplement provides an excellent introduction to parenteral antibiotics in home based care and includes discussion on:

- factors affecting antibacterial selection
- selection of patients
- clinical experience
- delivery models
- pharmacology of parenteral cephalosporins
- advantages and disadvantages of home parenteral cephalosporin therapy
- cost savings

We would caution readers about the use of broad spectrum antibiotics when narrow spectrum alternatives are available because of the concern regarding the development of antibiotic resistance.

The patient/carer perspective

Nick Santamaria

Gunnell D, Coast J, Richards SH, et al. How great a burden does early discharge to hospital-at-home impose on carers? A randomized controlled trial. Age Ageing 2000; 29: 137-142. ★

Summary

The objective of this study was to investigate the effects of an early discharge hospital-at-home scheme on the self reported carer strain and quality of life of the carers of these patients. The main illness categories of the patients were; fractures (52%), elective orthopaedic surgery (16%) and stroke (10%). Measurements were taken of the carers at four and twelve weeks following discharge in both groups (40 hospital and 93 hospital-at-home) using a modified Carer Strain Index and EuroQol EQ5D instruments. The results show that there were no marked differences between the groups in terms of self reported burden or quality of life. The authors conclude that hospital-at-home schemes may not necessarily place an unacceptable burden on carers but caution on the generalisability of the results to other patient and carer groups.

This is an interesting study that highlights the need for research into the effects of HITH-type programs on carers. The study however underscores the difficulty of comparing effects between HITH programs due to the differing definitions of home care, a situation often encountered in Australia when attempting comparisons of HITH treatments and outcomes between states. Overall the study adds to our understanding of the impact of HITH on carers but the findings conflict in part with other recently published research in the area which demonstrated that carers have unmet information needs and report increased stress and sleep disturbances.

Fried TR, van Doorn C, O'Leary JR et al. Older persons' preferences for home vs hospital care in the treatment of acute illness. Arch Intern Med 2000; 160:1501-6. (<http://jama.ama-assn.org/>) ★

Summary

This study reports the findings of a survey of 246 people aged over 65 years regarding their preferred treatment site should they experience an acute illness or acute exacerbation of the existing illness. The results suggested the major factors affecting the person's choice were; the potential treatment outcome, their physicians' opinion regarding best site for treatment and the availability of a home visiting service. Assuming equivalence in these factors, approximately half the cohort chose to be treated at home. The authors conclude that HITH programs must ensure that patient preferences need to be adequately explored as part of the decision making process regarding the appropriate site of treatment for older individuals with acute illness.

This study is useful in helping to understand the factors that the older person considers when deciding where they would rather be treated. The study unfortunately is limited because of the methodological constraints of the chosen design. The study, as designed, asked subjects to assume that a number of important factors were well defined and equal prior to them expressing a preference for treatment site. This appears artificial and consequently of limited use particularly when combined with the inherent limitations of survey methods used to predict subject's future intentions.

The study provides HITH practitioners working with the elderly some useful insights but it should not be seen as predictive or indicative of the older person's preferences. Its value lies in highlighting the importance of including the person in the decision making process regarding the site for treatment.

Research in Home care

Nick Santamaria

Cook MLW. **Encouraging research in home care: Learning from agency staff and family caregivers.** *Home Healthcare Nurse Manager* 2000; 4:5-11. ★

Summary

This article is principally aimed at the home care nurse who may be a novice researcher. Its major focus appears to be assisting practitioners to overcome the first hurdle in research, that of deciding what to investigate and getting started in planning a project. The author explores sources of research ideas, motivating staff, establishing processes and maintaining motivation. Some examples from home care practice are used to exemplify the points made in the article.

commentary

This is not a research methodology article, rather it is designed to help home care nurses who have an interest in research organise their first steps along the process. Readers requiring this level of information may do better by reading the introduction in many basic nursing research texts that cover the topic in greater depth.

Telemedicine

Rachael Addicott

Kinsella A. **Take a reality check on telehealth: The nurse IS in the picture!** *Home Healthcare Nurse* 2000; 18:89-92.

Summary

Kinsella discusses the role of the home care nurse in the changing climate of home health care and

proposes that telemedicine is a growing force in home health care which allows the interaction of nurses and technology. The CHF program at the University of Illinois Medical Centre is provided as an example.

Kinsella proposes that home care nurses, should be involved in the development and implementation of telemedicine tools as they have a degree of hands-on expertise, which is invaluable in the development of these tools.

commentary

This article is useful for a balanced view of the role of telemedicine which includes potential drawbacks such as decreased personal interaction, however the author provides little evidence for her claims.

Although the example provided was interesting, it primarily focused on the use of the telephone to monitor and contact patients.

Published abstracts from the literature

Esposito S, Noviello S, Ianniello F, D'Errico G. **Ceftazidime for outpatient parenteral antibiotic therapy (OPAT) of chronic suppurative otitis media due to *Pseudomonas aeruginosa*.** *J Chemother* 2000; 12:88-93. ★

In the present study, the efficacy and safety of outpatient parenteral antibiotic therapy (OPAT) was evaluated in 52 children (aged 6-12 years) affected by chronic suppurative otitis media (CSOM) whose parents were deemed compliant.

Otorhinolaryngologists and infectious disease specialists (IDS) cooperated in diagnosing, managing patients and being available 24 hours a day for family consultation. Bacteriological examination of ear exudate was carried out before antibiotic treatment. For all 52 children the infection was caused by *Pseudomonas aeruginosa* in vitro sensitive to ceftazidime. Ceftazidime was self-administered at the dosage of 500 mg b.i.d. intramuscularly at home for 7-10 days. All patients returned every other day during the treatment course for clinical observation

and cleansing of the ear, and 30 days after the end of the treatment (follow-up).

Complete clinical cure and bacteriological eradication were observed in 35 patients (67%), clinical improvement in 12 (23%). No side-effects or hearing impairment were reported at clinical and audiometric check-ups; compliance was absolute. This data suggest that children affected by CSOM can be managed as outpatients by a cooperative team of otorhinolaryngologists and IDS.

Commentary

This article had no comparison group so it is difficult to say if this treatment option was better or worse than other forms of treatment. As with another study in this issue, the confidence intervals around complete clinical cure are broad (67%, 95% confidence interval 53% to 80%) and must be used when interpreting these results.

Kovacs MJ, Anderson D, Morrow B et al. Outpatient treatment of pulmonary embolism with dalteparin. Thromb Haemost 2000; 83:209-11. ★

A prospective cohort study was undertaken of eligible patients with pulmonary embolism managed as outpatients using dalteparin (200 U/kg daily subcutaneously) for a minimum of five days and warfarin for 3 months from 3 teaching hospitals. Outpatients included those managed exclusively out of hospital and those initially managed for 1-3 days as inpatients then completed therapy out of hospital. Reasons for admission included hemodynamic instability: hypoxia requiring oxygen therapy; admission for another medical reason; severe pain requiring parenteral analgesia or high risk of major bleeding. Patients were followed for three months for clinically apparent recurrent venous thromboembolism and bleeding.

A total of 158 patients with pulmonary embolism were identified. Fifty patients were managed as inpatients and 108 as outpatients. Of the outpatients, 27 were managed for an average of 2.5 days as inpatients and then completed dalteparin therapy as outpatients. The remaining 81 patients were managed exclusively as outpatients with dalteparin. For all outpatients the overall symptomatic recurrence rate of venous thromboembolism was 5.6% (6/108, 95% CI 2-12%) with only 1.9% (2/108, 95% CI 0-7%) major bleeds. There were a total of four deaths with none due to pulmonary embolism or major bleed.

The authors consider this prospective study suggests that outpatient management of pulmonary embolism is feasible and safe for the majority of patients.

Commentary

The wide confidence intervals around the important end points need to be considered when deciding whether the authors conclusions are correct.

DiBaise J, Quigley E. Efficacy of prolonged administration of intravenous erythromycin in an ambulatory setting as treatment of severe gastroparesis: One center's experience. J Clin Gastroenterol 1999; 28:131-4. ★

The authors report on their experience with prolonged administration of intravenous erythromycin in an ambulatory setting for severe gastroparesis, refractory to usual dietary and oral prokinetic regimens.

Eleven patients received a total of 14 courses of intravenous erythromycin for a median of 6.5 months (range 1-19 months) at a median dosage of 300mg/day (range 150-1000mg/day). One patient received no benefit, two had complete responses, and all others had some benefit. Two had a dramatic relapse on cessation of therapy and subsequently improved on its resumption. Parenteral nutrition could be discontinued in one of four patients. There were four episodes of line sepsis; two required catheter removal. A nonocclusive thrombus developed at the site of a central line in one patient. Secondary infections or antibiotic resistance were not encountered.

The authors concluded that prolonged administration of intravenous erythromycin in an ambulatory setting is feasible, well tolerated and effective in patients with severe gastroparesis.

McKenzie M. Chemotherapy standards for hospital in the home: How useful? Aust J Adv Nursing 2000; 17:8-13. ★

This article details the process of developing chemotherapy standards for Hospital in the Home (HITH) and describes the results of a pilot project and the implications for nursing practice.

Five Melbourne HITH programs participated in the pilot process which evaluated the standards against their own programs. There was a wide variation in the skill sets nurses required depending on the structure of the HITH program. There were differences between programs in the nature of the interventions provided at home, documentation of treatments and points of contact for patients out of hours. Areas of concern identified by staff included level of detail the standards required for assessment of patient's home as an appropriate site to administer chemotherapy and qualifications required by staff managing HITH chemotherapy patients.

Santamaria N, McKenzie M. The carers of hospital in the home patients focus on clinical processes, procedures and the prediction of deterioration. Aust J Adv Nursing 2000; 17:16-20. ★

This study explores the psychological processes and information needs in a group of 78 HITH carers, randomly selected from 2 university teaching hospital HITH programs in Melbourne.

Semi-structured interviews were conducted and explored with a computerised lexical thematic content analysis program. Results revealed that psychological themes of carers were mainly related to HITH clinical processes, procedures and the prediction of complications or deterioration of the patient. Carers indicated that they needed further information on the patients' clinical conditions, emergency procedures and how to detect deterioration.

List of Medline, Cinahl and other published articles

Atopic Dermatitis

Jolles S, Hughes J, Rustin M. The treatment of atopic dermatitis with adjunctive high-dose intravenous immunoglobulin: a report of three patients and review of the literature. Br J Dermatol 2000; 142: 551-4. ★

Cardiac

Ades P, Pashkow F, et al. A controlled trial of cardiac rehabilitation in the home setting using electrocardiographic and voice transtelephonic monitoring. Am Heart J 2000; 139:543-8. ★

Catheters

Davis SN, Vermeulen L, Banton J. Activity and dosage of antepulse dilution for clearing occlusions of venous-access devices. Am J Health-Syst Pharm 2000; 57:1039-45. ★

Kalyn A, Blatz S, et al. A comparison of continuous infusion and intermittent flushing methods in peripheral intravenous catheters in neonates. J Intraven Nursing 2000; 23:46-53. ★

Karadag A, Görgülü S. Effect of two different short peripheral catheter materials on phlebitis development. J Intraven Nursing 2000; 23:158-66. ★

Costs

Sienkiewicz J. Answers to frequently asked questions about the proposed home care prospective payment system. Home Healthcare Nurse 2000; 18:323-30. ★

Soderstrom L, Tousignant P, Kaufman T. The health and cost effects of substituting home care for inpatient acute care: A review of the evidence. Can Med Assoc J 1999; 160:1151-5. ★

Drug Stability

Grant EM, Zhong M-K, Ambrose PG et al. Stability of meropenem in a portable infusion device in a cold pouch. Am J Health-Syst Pharm 2000; 57:992-5. ★

Education and Training - Patient/Carer

Barry CB. Teaching the older patient in the home assessment and adaptation. *Home Healthcare Nurse* 2000; 18:374-87. ★

Björnestam B, Hedborg K, Ransjö U, Finkel Y. The effect of a 1-hour training program on the incidence of bacteremia in pediatric patients receiving parenteral nutrition. *J Intraven Nursing* 2000; 23:154-7. ★

Michellini C. Mind map®: A new way to teach patients and staff. *Home Healthcare Nurse* 2000; 18:318-22. ★

Tidd C. Education and training for home care information systems. Part I: needs assessment. *Home Healthcare Nurse Manager*, 1999; 3:4-11.

Vidler V. Teaching parents advanced clinical skills. *Haemophilia*, 1999; 5(5): 349-53. ★

Elderly Adults

Sixma H, Campen C V, et al. Quality of care from the perspective of elderly people: the QUOTE-Elderly instrument. *Age Ageing* 2000; 29:137-142, 173-78.

Challis D, Mozley C, et al. Dependency in older people recently admitted to care homes. *Age Ageing* 2000; 29:255-60.

Hyde C, Robert I, et al. Systematic review. The effects of supporting discharge from hospital to home in older people. *Age Ageing* 2000; 29:271-9.

Corrado O. Caring for older hospital-at-home patients. *Age Ageing*, 2000; 29:97-98. ★

Ethics

Ladd R, Pasquerella L, et al. What to Do When the End Is Near: Ethical Issues in Home Health Care Nursing. *Public Health Nursing* 2000; 17:103-10.

Gastroparesis

DiBaise J, Quigley E. Efficacy of prolonged administration of intravenous erythromycin in an ambulatory setting as treatment of severe gastroparesis: One center's experience. *J Clin Gastroenterol* 1999; 28:131-4. ★

Infections

Aquino V, Herrera L, Sandler ES, Buchanan GR. Feasibility of oral ciprofloxacin for the outpatient management of febrile neutropenia in selected children with cancer. *Cancer* 2000; 88:1710-4. ★

Baddour L. Cellulitis syndromes: an update. *Int J Antimicrob Agents* 2000; 14:113-6.

Bachur R, Harper MB. Re-evaluation of outpatients with Streptococcus pneumoniae bacteremia. *Pediatrics* 2000; 105:502-9. ★

Darley ESR, Bowker KE, Lovering AM et al. Use of meropenem 3g once daily for outpatient treatment of infective exacerbations of bronchiectasis. *J Antimicrob Chemother* 2000; 45:247-50. ★

Eby C, Rehm SJ, Brakeman JA. Treating VRE in Home Care: Case Studies. *Infusion*; 6(suppl):18-24. ★

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Esposito S. Outpatient parenteral treatment of bacterial infections: the Italian model as an international trend? *J Antimicrob Chemother* 2000; 45: 724-727. ★

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Huminer D. Home intravenous antibiotic therapy for patients with infective endocarditis. *Eur J Clin Microbiol Infect Disease* 1999; 18:330-334.

Huggins S. Treatment of vancomycin-resistant enterococci: cost implications. *Infusion* 6(suppl):25-26. ★

Leggett JE. Ambulatory use of parenteral antibacterials. Contemporary perspectives. *Drugs* 2000; 59(suppl 3):1-8. ★

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Nathwani D. Place of parenteral cephalosporins in the ambulatory setting. Clinical evidence. *Drugs* 2000; 59(suppl 3):37-46. ★

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Strehl E, Kees F. Pharmacological properties of parenteral cephalosporins. Rational for ambulatory use. *Drugs* 2000; 59(suppl 3):9-18. ★

Tice AD. Pharmacoeconomic considerations in ambulatory use of parenteral cephalosporins. *Drugs* 2000; 59(suppl 3):29-35. ★

Multiple Sclerosis

De Keyser J, Zwanikken C, Zorgdrager A, et al. Treatment of acute relapses in multiple sclerosis at home with oral dexamethasone: A pilot study. *J Clin Neurosci* 1999; 6:382-4. ★

Zimay D. Standardizing the definition and measurement of catheter-related infection in home care: A proposed outcome measurement system. *J Med Syst* 1999; 23:189-99. ★

Miscellaneous

Crisler KS, Baillie LL, Richards AA. Integrating OASIS data collection into a comprehensive assessment. *Home Healthcare Nurse* 2000; 18:249-54. ★

Friedman M. Designing home care processes to make organizational improvements: The joint commissions standards. *Home Healthcare Nurse* 2000; 18:292-5. ★

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Pfaadt MJ. Using PI to reinvent your skin care program. *Home Healthcare Nurse Manager* 2000; 4:20-23. ★

Roush CV, Cox JE. The meaning of home: how it shapes the practice of home and hospice care. *Home Healthcare Nurse* 2000; 18:388-94. ★

Nursing

Chukhraev A, Grekov I. Local complications of nursing interventions on peripheral veins. *J Intraven Nursing* 2000; 23:167-9. ★

Cook MLW. Encouraging research in home care: Learning from agency staff and family caregivers. *Home Healthcare Nurse Manager* 2000; 4:5-11. ★

Jitramontree N. The impact of medicare reimbursement changes on home healthcare: A nursing perspective. *Home Healthcare Nurse* 2000; 18:116-22. ★

Pfaadt M. A review of the basics - Understanding the categories of skilled nursing services. *Home Healthcare Nurse* 2000; 18:297-300. ★

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Turkoski B. Home care and hospice ethics: Using the code for nurses as a guide. *Home Healthcare Nurse* 2000; 18:308-16. ★

Oncology

Bogliolo G, Pannacciulli I, Desalvo L et al. Advanced colorectal cancer: quality of life and toxicity in patients after weekly 24-hour continuous infusions of biomodulated 5-fluorouracil. *Anticancer Res* 2000; 20:501-4. ★

Boyer C. Chemotherapy-related anaemia and fatigue in home care patients. *Home Healthcare Nurse* 2000; 18:3-12. ★

McKenzie M. Chemotherapy standards for hospital in the home: How useful? *Aust J Adv Nursing* 2000; 17:8-13. ★

Nesti S, Kovac R. 5-fluorouracil extravasation following port failure. *J Intraven Nursing* 2000; 23:176-80. ★

Patient/Carer

Fried TR, van Doorn C, O'Leary JR et al. Older persons' preferences for home vs hospital care in the treatment of acute illness. *Arch Intern Med* 2000; 160:1501-6. ★

Gunnell D, Coast J, Richards SH, et al. How great a burden does early discharge to hospital-at-home impose on carers? A randomized controlled trial. *Age Ageing* 29: 137-142. ★

Hellwig K. Alternatives to restraints: what patients and caregivers should know. *Home Healthcare Nurse* 2000; 18:395-403. ★

Santamaria N, Kitt S, et al. The emerging needs of the carers of hospital in the home patients. *J Case Management Soc Aust* 2000; 2:8-13. ★

Santamaria N, McKenzie M. The carers of hospital in the home patients focus on clinical processes, procedures and the prediction of deterioration. *Aust*

J Adv Nursing 2000; 17:16-20. ★

Perioperative anticoagulation

Douketis JD, Crowther MA, Cherian SS. Perioperative anticoagulation in patients with chronic atrial fibrillation who are undergoing elective surgery: Results of a physician survey. *Can J Cardiol* 2000; 16:326-30. ★

Pharmacy

American Society of Hospital Pharmacists. ASHP Guidelines on Quality Assurance for Pharmacy-Prepared Sterile Products. *Am J Health-Syst Pharm* 2000; 57:1150-1169. ★

American Society of Hospital Pharmacy. ASHP Guidelines on the Pharmacist's Role in Home Care. *Am J Health-Syst Pharm* 2000; 57:1252-7. ★

Kaminski Price C, Colodny L. Partnering with nurses to manage heparin therapy with a weight-based protocol. *Am J Health-Syst Pharm* 57:110-112, 115-116. ★

Rollins G. The nurse-pharmacist connection. *Infusion* 2000; 6:15-18. ★

The Society of Hospital Pharmacists of Australia. SHPA Standards of practice for the transportation of cytotoxic drugs from pharmacy departments. *Aust J Hosp Pharm* 2000; 30:116-117. ★

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Quality Improvement

Gandhi T, Puopolo A et al. Obstacles to collaborative quality improvement: the case of ambulatory

general medical care. *Intern J Quality Health Care* 2000; 12:115-23.

Richard AA, Chrisler KS, Stearns PM. Using OASIS for outcome-based quality improvement. *Home Healthcare Nurse*, 2000; 18:232-7. ★

Winiarski D. Performance improvement in action: Reducing unscheduled deliveries of infusion supplies. *Infusion* 2000; 6:19-24. ★

Rehabilitation

Grotke DM. Rehabilitation in home care: New joint commission accrediting standards. *Home Healthcare Nurse Manager* 2000; 4:2-4. ★

Respiratory Diseases

Putnam JB, Walsh GL, Swisher SG et al. Outpatient management of malignant pleural effusion by a chronic indwelling pleural catheter. *Ann Thorac Surg* 2000; 69:369-75. ★

Rural

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