

## Approaches for adult nursing and residential care homes on promoting oral health, preventing dental health problems and ensuring access to dental treatment

### Draft Review 3: Barriers and Facilitators. APPENDICES

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## Appendix A – Evidence Table

Study details	Research parameters	Population and sample selection	Outcomes and methods of analysis	Notes
<p><b>First author and year:</b> Antoun, 2008</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> New Zealand</p>	<p><b>What was/were the research questions:</b> Study aims: to examine New Zealand General Dental Practitioners' (GDPs) beliefs about older adults' oral health, determine willingness to provide care for institutionalized older adults, and identify barriers that prevent them from treating older adults.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Survey/questionnaire posted with cover letter explaining purpose. Prepaid envelope included for returning forms. One month later second wave of forms with amended cover letter sent to the 354 non-respondents.</li> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b> Caregiver workplace.</li> <li>• <b>When:</b> April - July 2006</li> </ul>	<p><b>Setting</b> Dental profession, New Zealand (nationwide study – both urban and rural).</p> <p><b>Participants:</b> General dental practitioners (GDPs). n = 437, 24.7% female, 30.4% under 40 years old, 54.9% over 40 and under 60 years old, 14.6% over 60.</p> <p><b>What population were the sample recruited from:</b> Randomly selected representative sample of 700 GDPs on New Zealand Dental Register</p> <p><b>How were they recruited:</b> Postal survey; incentives offered in the form of two prize draws.</p> <p><b>exclusion criteria:</b> 'Specialist dentists'; dentists retired or deceased; incorrect contact details (survey returned).</p> <p><b>inclusion criteria:</b> Randomly selected GDPs on New Zealand Dental Register.</p>	<p><b>Brief description of method and process of analysis:</b> Questionnaire sought data on respondents' sociodemographic and practice characteristics, together with information on their experience of (and attitudes toward) treating older people. Information on their knowledge of current disease patterns among older adults was also collected.</p> <p>Survey responses were entered into an electronic database, and then analyzed using the Statistical Package for the Social Sciences (SPSS). Associations between categorical variables were tested for statistical significance using the chisquare test, with the alpha level set at 0.05.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Challenging to provide care</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• Dental Person competence and confidence</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental treatment in practice access</li> <li>• Health Complex Health Conditions</li> <li>• Health Conditions Specified</li> <li>• Non dental People as barrier or facilitator</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Undefined dental treatment access</li> <li>• voice dental</li> </ul>	<p><b>Limitations (author):</b> None identified</p> <p><b>Limitations (review team):</b> questionnaire not provided or pretested</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Not stated</p> <p><b>Funding sources:</b> Study funded by University of Otago, NZ. Prize draw funded by Henry Schein Ltd. And Sellagence Ltd.</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable country</p>

<p><b>First author and year:</b> Arpin 2008</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Canada</p>	<p><b>What was/were the research questions:</b> To determine changes in untreated caries, perceptions of oral health problems and use of dental services in elderly people</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> <b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> authors?</li> <li>• <b>What setting(s):</b> Residential and long-term care centres</li> <li>• <b>When:</b> February and October 2004</li> </ul>	<p><b>Setting</b> Residential and long-term care centre</p> <p><b>Participants:</b> Residents; N=152; 65% female; 80.9% spoke French; 82.3% &lt;12years schooling.</p> <p><b>What population were the sample recruited from:</b> Facilities in Monteregie and Montreal and Quebec City</p> <p><b>How were they recruited:</b> Random selection of facilities and residents</p> <p><b>exclusion criteria:</b> those &lt;65yrs old, those who have been in the facility for &lt;3months, incapable of giving informed consent or understanding study objectives, unfit for dental examination</p> <p><b>inclusion criteria:</b> have at least 1 natural teeth</p>	<p><b>Brief description of method and process of analysis:</b> Use of validated questionnaire to obtain information on personal and demographic characteristics, hygiene habits, recourse to services and perceived problems. An oral examination was performed on residents before administration of questionnaires. Data was analysed and compared with those from a similar study undertaken in 1980. Descriptive analyses of data was done and percentages and averages were obtained.</p> <p><b>Key themes (with illustrative quotes if available) relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Factors Influencing Age</li> <li>• Factors Influencing Care utilisation and relationship with treatment</li> <li>• Health Conditions with Mobility or Physical Movement</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• patient characteristics</li> <li>• Patient cost related factors</li> <li>• Patient Financial and Resources</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Patient reporting or not reporting pain or discomfort</li> <li>• Procedure dental care access</li> <li>• Undefined dental treatment access</li> <li>• voice Patient or care home resident</li> <li>• Patient factors socioeconomic</li> <li>• Patient vs Clinician assessment conflicts</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> </ul>	<p><b>Limitations (author):</b> Selection bias</p> <p><b>Limitations (review team):</b> limited analysis, no consideration of confounders</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Training of staff by oral health professionals, and sensitisation and education of residents by staff on the importance of oral hygiene. Improvement of physician training, annual oral examination and cleaning of residents' mouth. Residents should have financial accessibility to oral health care this can be covered by health insurance.</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> no financial interest</p> <p><b>Applicable to UK?</b> yes</p>
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<p><b>First author and year:</b> Belsi, 2013</p> <p><b>Study design:</b> Mixed methods: postal questionnaire (quantitative) plus semi structured interviews (qualitative)</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> To investigate care home managers' views on the provision of dental care for their residents and barriers to care and the impact of policy changes (by type of home-nursing vs residential).</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> <b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire, interview</li> <li>• <b>By whom:</b> Mailed questionnaire</li> <li>• <b>What setting(s):</b> residential care homes</li> <li>• <b>When:</b> not stated</li> </ul>	<p><b>Setting</b> Care homes in South East London</p> <p><b>Participants:</b> Care home managers (n=152).</p> <p><b>What population were the sample recruited from:</b> All care home managers of the 211 nursing and residential care homes in the inner city boroughs of Lambeth, Southwark and Lewisham in South East London.</p> <p><b>How were they recruited:</b> Postal survey undertaken using list of care homes compiled from three co-terminus local authorities and primary care trusts. The survey involved four mailings with the final mailing taking place seven weeks from the onset of the study.</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> care home managers of selected facilities</p>	<p><b>Brief description of method and process of analysis:</b> 39-item questionnaire included sections on: i) details of the care home; ii) oral care assessment; iii) current arrangements for dental care of residents emergency care, check-ups and follow-up treatment; iv) changes since the introduction of the 2006 national dental contract; v) future arrangements for the dental care of residents; and, vi) training for care staff. Data were entered and analysed using SPSS v17. Descriptive analyses and chi-square tests were performed to compare managers' views across the different types of care homes. Eleven follow-up semi-structured telephone interviews</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Health Conditions with Uncooperative Behaviour</li> <li>• Health Dementia or Memory</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• patient characteristics</li> <li>• Patient Financial and Resources</li> <li>• Patient health or mobility</li> <li>• Patient mobility</li> <li>• Patient or care home resident factors</li> <li>• Patient travel or transport</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• resisting or challenging behaviour</li> <li>• Undefined dental treatment access</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> views of managers rather than that of carers or residents were explored, non-response bias</p> <p><b>Limitations (review team):</b> single researcher involved in qualitative data analysis and result not rich. Self-report</p> <p><b>Evidence gaps and/or recommendations for future research:</b> similar research using carers, residents and relatives</p> <p><b>Funding sources:</b> Lambeth, Southwark and Lewisham Primary Care Trusts</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> Yes</p>
<p><b>First author and year:</b> Brister TM 2008</p> <p><b>Study design:</b> CSS</p>	<p><b>What was/were the research questions:</b> To evaluate the dental utilization of Medicaid-</p>	<p><b>Setting</b> Residential care facility, Iowa, USA</p>	<p><b>Brief description of method and process of analysis:</b> Demographic data was obtained from the Medicaid enrolment and data on dental procedures, number of tooth, tooth surface; dental procedure code and date of service for all procedures were obtained from the</p>	<p><b>Limitations (author):</b> Claims data are for billing purposes and may be prone to bias, they do not</p>

<p><b>Quality score:</b> ++ <b>External validity (surveys only)</b> ++ <b>Country</b> USA</p>	<p>enrolled adults with developmental disabilities <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a <b>How were the data collected:</b> • <b>What method(s):</b> Medicaid enrolment and claims files • <b>By whom:</b> Authors • <b>What setting(s):</b> Medicaid administrative data checked • <b>When:</b> May 2004</p>	<p><b>Participants:</b> RCF residents. N=1423, 42.7% females; 48.4% aged &gt;48years; white 94.6% <b>What population were the sample recruited from:</b> Facilities with services for mentally and developmentally disabled individuals in Iowa were selected from a database of all RCF in Iowa <b>How were they recruited:</b> Information on RCF in Iowa was obtained from the Iowa Department of Inspections and Appeals (IDIA). <b>exclusion criteria:</b> not stated <b>Inclusion criteria:</b> Organisations providing services to mentally or developmentally disabled individuals. Individuals residing in the RCF during the calendar year 2003.</p>	<p>Medicaid claims forms. Dependent variable was dental utilization. Mean difference was analysed using ANOVA, Turkey's post hoc test was used to determine inter group difference. CDT code was used to categorise dental procedures to enable investigation of dental services utilized. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• dental treatment in practice access</li> <li>• Factors Influencing Age</li> <li>• Factors Influencing Care utilisation and relationship with treatment</li> <li>• Factors Influencing Ethnicity</li> <li>• Factors Influencing Gender</li> <li>• Factors Influencing Gender influence</li> <li>• Health Learning difficulty or Intellectual</li> <li>• patient characteristics</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Undefined dental treatment access</li> <li>• voice care home staff</li> </ul>	<p>include diagnosis codes and treatment paid for by private insurance is not included. Result does not reflect appropriateness of care received. <b>Limitations (review team):</b> data are collected for billing purposes and may include some potential biases as a result <b>Evidence gaps and/or recommendations for future research:</b> laws should specify the frequency of dental care provision to residents, staff at RCF should seek dental treatment at least once a year for residents, facilities should be monitored regularly and keep accurate records. <b>Funding sources:</b> Not stated <b>Conflicts of interest:</b> Not stated <b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Chalmers JM 1996 <b>Study design:</b> Mixed Methods <b>Quality score:</b> + <b>External validity</b></p>	<p><b>What was/were the research questions:</b> To investigate factors influencing nurses' aides' provision of oral care for nursing facility residents <b>What theoretical approach</b></p>	<p><b>Setting:</b> Nursing facilities, Iowa, USA <b>Participants:</b> Nurses' aides, N=488; <b>What population were the</b></p>	<p><b>Brief description of method and process of analysis:</b> Use of 30-item questionnaire and structured interview (3 opened ended and 8 closed-ended questions) that was anonymised, formats were obtained from a previous preliminary study. Questionnaires were received and returned via mail. Results of interviews and questionnaires were analysed using univariate descriptive statistics. Correlations in results from questionnaires were further analysed</p>	<p><b>Limitations (author):</b> minimal sensitivity of self-reported measures of oral care. Demand for anonymity affected questionnaire distribution and response rate, and</p>

<p>(surveys only) ++ Country USA</p>	<p>(e.g. grounded theory, IPA) does the study take (if specified):n/a How were the data collected: • <b>What method(s):</b> questionnaires and 10-minute interview • <b>By whom:</b> author • <b>What setting(s):</b> residential facilities • <b>When:</b> 1994?</p>	<p><b>sample recruited from:</b> Selected from all facilities in Central and Eastern Iowa <b>How were they recruited:</b> Stratified random sampling of 50 nursing facilities, from these 31 consecutive facilities were contacted and enrolled until 25 facilities were selected. <b>Exclusion criteria:</b> not stated <b>Inclusion criteria:</b> not stated</p>	<p>using Chi-square analyses, t tests, ANOVA, and logistic regression. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> <li>• Care home Factors</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Resident behaviour</li> </ul>	<p>this also prevented the comparison of aides who were interviewed to those who were not interviewed. High turnover of aides, large number of staff and frequent shift changes affected recruitment. <b>Limitations (review team):</b> Bias due to self-report of some questionnaire items <b>Evidence gaps and/or recommendations for future research:</b> More in-depth observational methods needed to quantify aides' oral care activities. Further investigation and assessment of aides' CNA training courses and their dental knowledge, and continuing oral health education in nursing facilities. Implementation and evaluation of interventions to improve oral care provision. <b>Funding sources:</b> NIDR P30- DE10126 and R03-DE10660, and by the American Fund for Dental Health <b>Conflicts of interest:</b> not stated</p>
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				Applicable to UK? yes
<p><b>First author and year:</b> Chalmers JM 2001</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Australia</p>	<p><b>What was/were the research questions:</b> To quantify the dental care provided to nursing home residents, to investigate the attitudes of dentists and directors of nursing to dental care in nursing homes and to identify the problems encountered by them.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> author?</li> <li>• <b>What setting(s):</b> Dental practice location and nursing homes</li> <li>• <b>When:</b> Early 1998</li> </ul>	<p><b>Setting</b> Adelaide dental clinics and nursing homes</p> <p><b>Participants:</b> Dentists N=413 and directors of nursing (DON) N= 97</p> <p><b>What population were the sample recruited from:</b> All registered dentists and nursing home directors of nursing</p> <p><b>How were they recruited:</b> A list of all practicing Adelaide dentists was obtained from the Dental Board of South Australia. A list of all Adelaide nursing homes was obtained from the Aged Care Division of the Commonwealth Department of Health and Family Services</p> <p><b>Exclusion criteria:</b> Registered specialists</p> <p><b>inclusion criteria:</b> Practicing dentists</p>	<p><b>Brief description of method and process of analysis:</b> baseline questionnaire was mailed to all participants; this included closed-ended questions and one qualitative open-ended question. Univariate statistics and t-test was used to describe problems encountered with organisation and provision of dental care. Logistic regression modelling was undertaken to determine characteristics of dentists who provided dental care to residents. Pearson's chi-square test to describe differences among dentists.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• skills</li> <li>• Training</li> <li>• Undefined dental treatment access</li> <li>• voice care home staff</li> <li>• voice dental</li> <li>• dental service provision factor</li> <li>• knowledge</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient behaviour</li> <li>• Patient cost related factors</li> <li>• Patient Financial and Resources</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Providing care outside surgery</li> <li>• resisting or challenging behaviour</li> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• Challenging to provide care</li> <li>• cognitive</li> <li>• Convenience or Inconvenience of providing care</li> <li>• dental practice as a training provider</li> </ul>	<p><b>Limitations (author):</b> Results may not be generalizable to other institutions</p> <p><b>Limitations (review team):</b> not stated if questionnaire was validated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> future studies to examine arrangements between dentists and nursing homes, the type of dental services provided at nursing homes, influence and use of nursing home dental standard and guideline. Number of residents, types of portable dental equipment used in nursing homes, quantification of the involvement of dental hygienists and dental technicians in service provision in nursing homes. Upgrade of Australian undergraduate, postgraduate and continuing dental education in geriatric</p>



			<ul style="list-style-type: none"> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> </ul>	<p>dentistry.</p> <p><b>Funding sources:</b> Australian Dental Association South Australian Branch and the AIHW Dental Statistics and Research Unit, The University of Adelaide.</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Chowdhry N 2011</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Canada</p>	<p><b>What was/were the research questions:</b> Comparison of perceptions of dentists regarding their decision to provide treatment in long-term care facilities. Explore changes since 1995 in attitudes to treating residents in LTC facility</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> survey questionnaire</li> <li>• <b>By whom:</b> authors?</li> <li>• <b>What setting(s):</b> Dental clinic</li> <li>• <b>When:</b> 2008</li> </ul>	<p><b>Setting</b> Dental clinic, British Columbia, Canada</p> <p><b>Participants:</b> Dentists. N=251 (respondents)</p> <p><b>What population were the sample recruited from:</b> Dentists in British Columbia</p> <p><b>How were they recruited:</b> Random selection of 800 dentists using a computer-generated random number list.</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> general dentists in selected region</p>	<p><b>Brief description of method and process of analysis:</b> a previous Questionnaire developed by MacEntee and colleagues in 1985 was used; this was pretested on volunteers before administration to the study population. The first section of the questionnaire sought personal information, while the second section inquired about attitudes to provision of care to frail elderly patients. Responses were based on the Likert scale. Univariate, bivariate and multivariate analyses was undertaken. Exploratory factor analysis was used to study common patterns of attitudes within and among each group of dentists.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• resisting or challenging behaviour</li> <li>• skills</li> <li>• Training</li> <li>• Undefined dental treatment access</li> <li>• voice dental</li> <li>• Convenience or Inconvenience of providing care</li> <li>• Dental Person Attitude or emotion</li> <li>• Dental Person competence and confidence</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental team</li> <li>• dental treatment in practice access</li> </ul>	<p><b>Limitations (author):</b> Response bias</p> <p><b>Limitations (review team):</b> low response rate.</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> none</p> <p><b>Applicable to UK?</b> yes</p>

			<ul style="list-style-type: none"> <li>• Experience</li> <li>• Factors Influencing Age</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient behaviour</li> <li>• patient characteristics</li> <li>• Patient health</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Bureaucracy and paperwork</li> <li>• Care home Factors</li> <li>• Challenging to provide care</li> </ul>	
<p><b>First author and year:</b> Chung JP 2000</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Switzerland</p>	<p><b>What was/were the research questions:</b> To assess the attitudes of physicians, managers and caregivers with regards to residents' oral health care issues.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> Head nurses distributed questionnaires to caregivers</li> <li>• <b>What setting(s):</b> nursing homes</li> <li>• <b>When:</b> 2000?</li> </ul>	<p><b>Setting</b> Nursing homes, Geneva Switzerland</p> <p><b>Participants:</b> nursing home managers N=65, Caregivers N=169, Physicians N=18,</p> <p><b>What population were the sample recruited from:</b> Nursing homes in Geneva</p> <p><b>How were they recruited:</b> All nursing home managers were contacted. Managers gave permission for supervising nurse and physician responsible for each institution to be contacted</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> all nursing home managers in selected region</p>	<p><b>Brief description of method and process of analysis:</b> questionnaires were distributed to managers of 65 nursing homes, to caregivers by the head nurse of 13 nursing homes who responded early, and to 18 physicians affiliated with the 13 homes after a course on oral and dental problems of residents. Mann-Whitney and chi-square non-parametric tests were used for results analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental treatment in practice access</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• skills</li> <li>• Undefined dental treatment access</li> <li>• voice care home staff</li> <li>• voice Other or multiple people</li> <li>• Care home Factors</li> </ul>	<p><b>Limitations (author):</b> low response rate of managers, social responsibility bias on the part of the managers,</p> <p><b>Limitations (review team):</b> Questionnaire not validated, questions not provided</p> <p><b>Evidence gaps and/or recommendations for future research:</b> A dentist should be responsible for each nursing home and arrange training and education for different personnel groups</p> <p><b>Funding sources:</b> Not stated</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> yes</p>

<p><b>First author and year:</b> Cornejo-Ovalle M 2013</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Spain</p>	<p><b>What was/were the research questions:</b> To describe caregivers' frequency of tooth brushing and cleaning of dentures for institutionalised elderly.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> <b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> Author?</li> <li>• <b>What setting(s):</b> SHC</li> <li>• <b>When:</b> 2009?</li> </ul>	<p><b>Setting</b> long stay social health centres (SHC)</p> <p><b>Participants:</b> caregivers, N=196, 83% women.</p> <p><b>What population were the sample recruited from:</b> SHCs in the Barcelona health region with residential profile.</p> <p><b>How were they recruited:</b> Random selection of study participants.</p> <p><b>exclusion criteria:</b> Caregivers working in centres that care for psychiatric patients, or centres that did not agree to participate</p> <p><b>inclusion criteria:</b> SHCs with residential status</p>	<p><b>Brief description of method and process of analysis:</b> 50% of nursing assistants in each centre were to be administered questionnaires, 33 SHC agreed to participate, 2 were excluded due to exclusion criteria. Caregivers' coordinators explained data collection method to them. Descriptive analysis was performed, Clustering (residences) was analysed using Pearson chi-square test, and multivariate analysis. To determine the strength of association and factors associated with dependent variables a Poisson regression model was fitted.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> <li>• Care home Factors</li> </ul>	<p><b>Limitations (author):</b> Response bias as interviews were conducted in the workplace</p> <p><b>Limitations (review team):</b> Selection bias as only centres that agreed to participate were included</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Investigate whether caregivers performed oral hygiene measures in elderly that were functionally capable of performing this function themselves, comparison of empirical observation studies with frequency of activities reported by caregivers. Continuous training of caregivers, elderly should perform their oral health care whenever possible.</p> <p><b>Funding sources:</b> Public Health Agency of Barcelona (ASPB). National Council of Technological and Scientific Development (CNPq-Brasil). National Commission for Scientific and</p>
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				<p>Technological Research of Chile (CONICYT - Chile). Faculty of Dentistry, University of Chile.</p> <p><b>Conflicts of interest:</b> None</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Shafik Dharamsi, 2009</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Canada</p>	<p><b>What was/were the research questions:</b> What impact does an education program on mouth care for elders have on caregiver knowledge, attitudes, and practice?</p> <p>What are the enablers and barriers that influence the provision of daily mouth care practices, policies and protocols?</p> <p>What are the self-perceptions of caregivers regarding their oral health?</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> PRECEDE-PROCEED model</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> A combination of audits, surveys, semi-structured and open-ended interviews.</li> <li>• <b>By whom:</b> Audits and interviews were conducted by one of the</li> </ul>	<p><b>Setting</b> A single long-term care (LTC) facility in Vancouver, Canada.</p> <p><b>Participants:</b> Interview participants: Residential care aides (n=18); Registered nurses (n=3); Clinical nurse leaders (n=3); Director of care (n=1); GDP oral health educator (n=1). Survey participants: Residential care aides (n=90) (response rate of 75%)</p> <p><b>What population were the sample recruited from:</b> Caregivers at single LTC facility.</p> <p><b>How were they recruited:</b> Interview participants recruited via purposeful sampling. Residential care aides (RCAs) invited to participate in the survey.</p> <p><b>Exclusion criteria:</b> Not stated</p> <p><b>Inclusion criteria:</b> Past participation in the</p>	<p><b>Brief description of method and process of analysis:</b> Surveys and audits: analysed using descriptive statistics in SPSS and Excel (Cross-tabulations, frequencies, and percentages). Interviews were recorded and transcribed verbatim, thematically analysed in accordance with pre-defined themes ('the PRECEDE-PROCEED categories of predisposing, enabling, and reinforcing')</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• Health Frail</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice Author</li> <li>• voice care home staff</li> <li>• voice dental</li> </ul>	<p><b>Limitations (author):</b> Not stated</p> <p><b>Limitations (review team):</b> Relationship between investigator and participants not adequately considered, number of researchers involved in data coding not stated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Not stated</p> <p><b>Funding sources:</b> the Dr. S. Wah Leung Endowment Fund.</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Canada)</p>

	<p>study investigators.</p> <ul style="list-style-type: none"> <li>• <b>What setting(s):</b> Study was carried out at one of six Providence Health Care sites in British Columbia, Canada.</li> <li>• <b>When:</b> Period within which fieldwork carried out not specified (publication submitted for review 17/09/08).</li> </ul>	<p>GDP education program (interview participants) Employed as residential care aide in LTC site (survey)</p>		
<p><b>First author and year:</b> Dickenson, 2012</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> How confident are practicing dental hygienists in Texas in their level of educational preparation and willingness to treat an elderly population (and associated conditions) in alternative practice settings such as nursing homes?</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> None reported.</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire (addressing respondent demographics, knowledge of the growing elderly population, preparedness to treat the elderly with special needs, preparedness treating the</li> </ul>	<p><b>Setting</b> Texas, USA</p> <p><b>Participants:</b> Dental hygienists (n=175). 98% female. 68% working in a city of population &gt; 50,000. 86% working in in urban areas.</p> <p><b>What population were the sample recruited from:</b> Dental hygienists licensed and living in Texas.</p> <p><b>How were they recruited:</b> Systematic, cluster sample of 500 drawn from population of 2500. Names accessed from the Texas State Board of Dental Examiners. Questionnaire plus cover letter and a stamped, self-addressed envelope mailed out.</p>	<p><b>Brief description of method and process of analysis:</b> Chi square test was applied to assess significance of a trend in response. Strengths of relationships assessed with Cramer's V test. Significance level was set at 0.05.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Dental Person competence and confidence</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• Experience</li> <li>• Health Complex Health Conditions</li> <li>• Health Dementia or Memory</li> <li>• Procedure dental care access</li> <li>• Providing care outside surgery</li> <li>• Training</li> <li>• Undefined dental treatment access</li> <li>• voice dental</li> <li>• Health Conditions Specified</li> <li>• Convenience or Inconvenience of providing care</li> <li>• Dental Person Attitude or emotion</li> </ul>	<p><b>Limitations (author):</b> Study cannot be generalized to the total population and represents mainly the female hygienists that are working in urban areas and in large general practice offices. Results limited by research design characteristics: survey sample was restricted to dental hygienists in Texas, response rate of the survey was 35%, limiting the ability to generalize the results of this study even to other dental hygienists in Texas.</p> <p><b>Limitations (review team):</b> low response rate, closed questions</p>

	<p>elderly in a clinical setting, the appeal of treating the elderly in a clinical setting and the willingness to work in alternative practice settings) sent and returned via mail.</p> <p>• <b>By whom:</b> Not reported</p> <p>• <b>What setting(s):</b> Not specified (questionnaires sent to addresses provided by Texas State Board of Examiners)</p> <p>• <b>When:</b> Not specified (paper accepted for publication 13/07/11)</p>	<p>Response rate of 35%.</p> <p><b>exclusion criteria:</b> Respondents not practicing Incomplete data provided on questionnaire.</p> <p><b>inclusion criteria:</b> Status as alumni: graduates from two associate degree and two Bachelor's degree dental hygiene programmes, from four of the 21 dental hygiene schools in Texas.</p>		<p><b>Evidence gaps and/or recommendations for future research:</b> Additional studies should be conducted with dental hygienists and other oral healthcare professionals nationwide and even globally. Research should be carried out to assess the adequacy of geriatric education in the curriculum of dental hygiene and other oral healthcare programs.</p> <p><b>Funding sources:</b> Not stated</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (USA)</p>
<p><b>First author and year:</b> Dounis, 2010</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> Study purpose was to determine the perceptions of oral health status and access to dental care by Southern Nevada Assisted Living Facilities Residents.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p>	<p><b>Setting</b> Assisted Living Facilities, Southern Nevada, USA</p> <p><b>Participants:</b> Facility residents respondents (n=70). 40% female, mean age 75.78 years.</p> <p><b>What population were the sample recruited from:</b> Residents of 80 Southern Nevada Assisted Living Facilities.</p>	<p><b>Brief description of method and process of analysis:</b> Data analyses included descriptive statistics and chi-square.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Factors Influencing Gender</li> <li>• patient characteristics</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• voice Patient or care home resident</li> </ul>	<p><b>Limitations (author):</b> Study limited by use of convenience sample and small geographical range.</p> <p><b>Limitations (review team):</b> low response rate, closed questions</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Further research is required to understand factors that influence access to oral health in</p>

	<p>• <b>What method(s):</b> Cross-sectional questionnaire. The survey included five demographic items (age, gender, educational status, social habits, smoking status, and dental insurance coverage), and fourteen items regarding self-perception of oral health status. Other questions addressed the presence of specific oral health problems.</p> <p>• <b>By whom:</b> Not specified</p> <p>• <b>What setting(s):</b> Not specified (assumed to be in residential facility)</p> <p>• <b>When:</b> Not specified</p>	<p><b>How were they recruited:</b> Letter of invitation sent to Facility administrators describing research study, seeking permission to contact residents, and requesting they facilitate data collection. Eleven administrators agreed to participate.</p> <p><b>exclusion criteria:</b> Residents with diminished cognitive function</p> <p><b>inclusion criteria:</b> Residents between 34 and 99 years of age.</p>		<p>alternative group living facilities for the elderly and subsequently develop oral care models to address the needs of population's residing in facilities but able to manage their own self-care.</p> <p><b>Funding sources:</b> Study was supported by Priority Care LTC Pharm.</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Nevada, USA)</p>
<p><b>First author and year:</b> Finkleman GI 2013</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Canada</p>	<p><b>What was/were the research questions:</b> The oral health impact of integrating dental service</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> merging of inductive and deductive data</p> <p><b>How were the data collected:</b></p> <p>• <b>What method(s):</b> Open-ended interviews using structured questionnaires</p> <p>• <b>By whom:</b></p>	<p><b>Setting</b> long-term care facilities</p> <p><b>Participants:</b> Residents, N=61,</p> <p><b>What population were the sample recruited from:</b> Residents of 3 LTC facilities in Ontario</p> <p><b>How were they recruited:</b> Not stated</p> <p><b>exclusion criteria:</b> Not stated</p> <p><b>inclusion criteria:</b> Not stated</p>	<p><b>Brief description of method and process of analysis:</b> Open-ended interviews were conducted on 61 residents from 3 LTC facilities using structured questionnaire to stimulate conversation topic. Interactions between family-resident, care aid-resident, and resident-resident were documented. Common patterns and themes were identified from field notes and transcriptions using inductive analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Patient health or mobility</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Patient travel or transport</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Treatment needs identification</li> <li>• Procedures and tasks relating to Oral care</li> </ul>	<p><b>Limitations (author):</b> Difficult to quantify information in photographic documents</p> <p><b>Limitations (review team):</b> method of selection of participants not stated, number of researchers involved in data coding not stated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> assess the impact of education on the utilisation of preventive</p>



	<p>the principal examiner</p> <ul style="list-style-type: none"> <li>• <b>What setting(s):</b> long-term care facilities</li> <li>• <b>When:</b> 2013?</li> </ul>		<ul style="list-style-type: none"> <li>• residents helping each other facilitatir</li> <li>• resisting or challenging behaviour</li> <li>• Using home alternatives</li> <li>• voice Author</li> <li>• voice Patient or care home resident</li> <li>• Care home Factors</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Language</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• patient characteristics</li> <li>• Patient cost related factors</li> <li>• Patient Financial and Resources</li> <li>• Patient health</li> <li>• Patient health as a priority</li> <li>• Access or availability of services</li> </ul>	<p>oral care programs, use of photographic documentation in research trials</p> <p><b>Funding sources:</b> Not stated</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Fjeld, 2014</p> <p><b>Study design:</b> Single-blinded, randomized, controlled clinical trial with qualitative questionnaire component.</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Norway</p>	<p><b>What was/were the research questions:</b> Study aimed to evaluate the caregiver’s opinion on Electronic Toothbrushes.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b></p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaires consisted of questions with multiple-choice answers and the possibility to elaborate</li> </ul>	<p><b>Setting</b> Nursing homes/long-term care facilities in Oslo, Norway</p> <p><b>Participants:</b> n=152. 23% nurses, 19% auxillary nurses, 20% unskilled health workers, 7% other.</p> <p><b>What population were the sample recruited from:</b> Caregivers working at the 9 nursing homes participating in the</p>	<p><b>Brief description of method and process of analysis:</b> Analyses were performed using SPSS, version 19 for Windows. Continuous variables presented as mean and SD, binary variables as number and percentage. Independent-sample t-test used to describe difference in OHI-S and MPS scores, chisquare test used when comparing binary variables in two groups. Correlation for subgroup tested with regression analyses. Limit for statistical significance set at <math>P &lt; 0.05</math>.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• Health Dementia or Memory</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> </ul>	<p><b>Limitations (author):</b> Not stated</p> <p><b>Limitations (review team):</b> short duration of follow-up, no power calculation</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Not stated</p> <p><b>Funding sources:</b> Toothbrushes and toothpaste were provided and given for free by Oral B, Procter &amp; Gamble</p>



	<p>comments</p> <ul style="list-style-type: none"> <li>• <b>By whom:</b> Not reported</li> <li>• <b>What setting(s):</b> Questionnaires distributed in workplace.</li> <li>• <b>When:</b> Not reported</li> </ul>	<p>intervention.</p> <p><b>How were they recruited:</b> Questionnaires were distributed at a routine staff meeting to all caregivers attending. Participation was anonymous and voluntary. Return of the questionnaires was considered as consent.</p> <p><b>exclusion criteria:</b> None reported</p> <p><b>inclusion criteria:</b> Staff working in one of the institutions participating in intervention.</p>	<ul style="list-style-type: none"> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p>Sverige AB.</p> <p><b>Conflicts of interest:</b> None reported</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Norway)</p>
<p><b>First author and year:</b> Forsell 2010</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> Study aim was to test the impact of an oral hygiene educational model on attitudes and perceptions toward oral hygiene among nursing home staff members</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire: consisting of closed questions about attitudes, perceptions, and skills related to daily oral hygiene tasks. An open-ended question asked for</li> </ul>	<p><b>Setting</b> A geriatric nursing home in Stockholm, Sweden</p> <p><b>Participants:</b> n=42</p> <p><b>What population were the sample recruited from:</b> Nursing staff working at nursing home.</p> <p><b>How were they recruited:</b> All nursing staff given questionnaire before and after participating in oral hygiene education.</p> <p><b>exclusion criteria:</b> None stated.</p> <p><b>inclusion criteria:</b> Nursing assistants or nursing auxiliaries working in</p>	<p><b>Brief description of method and process of analysis:</b> The quantitative questionnaire data were processed in Microsoft Excel (Windows XP; Microsoft Corp., Redmond, WA), and statistical calculations (Statistica 8.0 software) were made by an independent statistician at the Department of Learning, Informatics, Management and Ethics (Karolinska Institute, Stockholm, Sweden).</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> None stated</p> <p><b>Limitations (review team):</b> small sample size, use of a single home</p> <p><b>Evidence gaps and/or recommendations for future research:</b> None stated</p> <p><b>Funding sources:</b> None stated</p> <p><b>Conflicts of interest:</b> M FORSELL is CEO and Dentist at Oral Care, Stockholm, Sweden; E. KULLBERG is a Dental Hygienist at Oral Care, Stockholm, Sweden; J. HOOGSTRAATE is Director and Pharmaceutical</p>

	<p>suggestions on ways to improve oral hygiene education in the future.</p> <ul style="list-style-type: none"> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b> Not specified (assumed at workplace)</li> <li>• <b>When:</b> Not stated</li> </ul>	geriatric nursing home.		<p>Scientist at AstraZeneca R&amp;D, Sodertalje, Sweden; B. HERBST is a Dentist at Oral Care, Stockholm, Sweden; O. JOHANSSON is Associate Professor at the, Karolinska Institute, Stockholm, Sweden; P. SJOGREN is Director of R&amp;D and Senior Dentist at Oral Care R&amp;D, Goteborg, Sweden.</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Stockholm, Sweden)</p>
<p><b>First author and year:</b> Frenkel, 1999</p> <p><b>Study design:</b> CSS.</p> <p><b>Quality score:</b> -</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> Aim was to identify carer staff attitudes, practices and critical comments related to oral health care of functionally dependent nursing home clients</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaires: open-ended questions asked respondents to write down their views about carrying out oral health care for clients, recount their own experiences of dental health and dental treatment, and, imagining that they were</li> </ul>	<p><b>Setting:</b> 22 randomly selected nursing homes in the Bristol area.</p> <p><b>Participants:</b> Carers (n=416 total, n=227 for qualitative component) employed in selected homes.</p> <p><b>What population were the sample recruited from:</b> Caring staff from nursing homes in Bristol area.</p> <p><b>How were they recruited:</b> All carers employed at the time of the study were given questionnaires.</p> <p><b>exclusion criteria:</b> None stated</p> <p><b>inclusion criteria:</b> Employed as care staff in</p>	<p><b>Brief description of method and process of analysis:</b> Responses were coded into general subject areas and then indexed into more specific aspects of each subject. Indexed items were analysed according to the principles of discourse analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Resident behaviour</li> <li>• voice care home staff</li> <li>• Access or availability of services</li> </ul>	<p><b>Limitations (author):</b> None identified.</p> <p><b>Limitations (review team):</b> No information given at all on questionnaire or way the open ended questions were asked, or analysed.</p> <p><b>Evidence gaps and/or recommendations for future research:</b> None stated</p> <p><b>Funding sources:</b> NHS Executive South West Research and Development Directorate funded research.</p> <p><b>Conflicts of interest:</b> None identified</p> <p><b>Applicable to UK?</b> Yes, UK study (Bristol area)</p>

	<p>a client living in a nursing home, suggest any improvements in oral health care that they would like to see.</p> <ul style="list-style-type: none"> <li>• <b>By whom:</b> Matrons or directors of nursing distributed questionnaires. Carers returned completed questionnaires to matrons, who then posted them in a pre-paid envelope to the researcher.</li> <li>• <b>What setting(s):</b> In workplace</li> <li>• <b>When:</b> Not stated</li> </ul>	nursing home under study.		
<p><b>First author and year:</b> Gately, 2010</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> -</p> <p><b>External validity (surveys only)</b> -</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> to investigate the provision of denture hygiene care in nursing homes in Wales</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> not stated</li> <li>• <b>What setting(s):</b> nursing homes</li> <li>• <b>When:</b> not stated</li> </ul>	<p><b>Setting</b> All listed nursing homes in the areas of Colwyn Bay, Rhos-on-Sea and Llandudno</p> <p><b>Participants:</b> 10 nursing homes</p> <p><b>What population were the sample recruited from:</b> 10 of the 20 nursing homes that were approached agreed to take part in the study</p> <p><b>How were they recruited:</b> Managers were given an information sheet and were invited to participate. They were provided with a</p>	<p><b>Brief description of method and process of analysis:</b> Questionnaires were delivered to the nursing homes and placed where they could be seen and accessed by all care staff. A poster in both Welsh and English was displayed explaining the study together with a sealed deposit box for return of the questionnaires. Deposit boxes were collected 1 week later. Data were transferred to a computer using Microsoft Office Excel 2003 and the results were collated.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• cognitive</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient behaviour</li> </ul>	<p><b>Limitations (author):</b> Only half of those contacted responded, differences in opinion as a function of training could not be ascertained</p> <p><b>Limitations (review team):</b> No piloting/validation of questions or any attempt to explore who was answering and any differences between staff groups. Very low response rate and may well be unrepresentative</p> <p><b>Evidence gaps and/or recommendations for</b></p>

		<p>copy of the questionnaire to be completed by carers. Those who agreed to participate were included in the study.</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> nursing home managers who were willing to participate</p>	<ul style="list-style-type: none"> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>future research:</b> similar studies required in the rest of the UK</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Hally, 2003</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> Study aim was to assess the attitudes and practice of dentists and home supervisors within the Highland region with regard to the provision of oral health care for long-term care elderly residents.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire (cross-sectional survey)</li> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b> Sent to eligible workplaces.</li> <li>• <b>When:</b> Not stated</li> </ul>	<p><b>Setting</b> Dentistry and long term care in the Mainland Highland Region and the Isle of Skye in Scotland (the Highland Primary Care Trust remit).</p> <p><b>Participants:</b> Dentists (n=88) and home supervisors (n=59) working in long term care facilities.</p> <p><b>What population were the sample recruited from:</b> Dentists practicing in the Highland region of Scotland. Home supervisors of long term care facilities registered with the Highland Health Board.</p> <p><b>How were they recruited:</b> Questionnaire was posted out to dentists. Questionnaire was posted and telephone contact</p>	<p><b>Brief description of method and process of analysis:</b> Not specified by authors. Percentages calculated.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Convenience or Inconvenience of providing care</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental team</li> <li>• dental treatment in practice access</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient behaviour</li> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Providing care outside surgery</li> <li>• resisting or challenging behaviour</li> <li>• skills</li> <li>• Training</li> <li>• Undefined dental treatment access</li> </ul>	<p><b>Limitations (author):</b> Results based only on claimed attitudes and behaviour.</p> <p><b>Limitations (review team):</b> results presented only as percentages, precision values not given, validation not stated, self-report. No consideration of personal characteristics.</p> <p><b>Evidence gaps and/or recommendations for future research:</b> None stated</p> <p><b>Funding sources:</b> Scottish Council for Postgraduate Medical and Dental Education</p> <p><b>Conflicts of interest:</b> None reported</p> <p><b>Applicable to UK?</b> Yes, UK study (Scotland)</p>

		made with long-term care units. <b>exclusion criteria:</b> None stated <b>inclusion criteria:</b> Working within eligible population.	<ul style="list-style-type: none"> <li>• voice Author</li> <li>• voice care home staff</li> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• Challenging to provide care</li> <li>• cognitive</li> <li>• voice dental</li> </ul>	
<p><b>First author and year:</b> Hopcraft, 2008</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Australia</p>	<p><b>What was/were the research questions:</b> The aims of the study were to quantify the dental care provided to residents of aged care facilities in Victoria, and investigate the attitudes of dentists and Directors of Nursing toward dental care for residents.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>Not stated</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Postal survey</li> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b> Workplace</li> <li>• <b>When:</b> 2006</li> </ul>	<p><b>Setting</b> Dentistry practices and Residential Aged Care Facilities in Victoria, Australia.</p> <p><b>Participants:</b> Victorian general dentists and Directors of Nursing of Victorian Residential Aged Care Facilities</p> <p><b>What population were the sample recruited from:</b> A random sample of 220 dentists was selected from addresses on the Dental Practice Board of Victoria register, stratified for practice location (metropolitan Melbourne or regional Victoria). Based on a population of 824 accredited Residential Aged Care Facilities in Victoria, a list of facilities was stratified by nine metropolitan and rural regions. A random sample of 20 per cent from each</p>	<p><b>Brief description of method and process of analysis:</b> Univariate statistics and bivariate analysis (t-tests and Chi-squared tests) were used to describe various aspects of dental service provision and attitudes to dental care. Logistic regression analysis was used to model characteristics.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Challenging to provide care</li> <li>• dental domiciliary care access</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental treatment in practice access</li> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• skills</li> <li>• Training</li> <li>• voice dental</li> </ul>	<p><b>Limitations (author):</b> Dental prosthetists and dental hygienists not included in population under study.</p> <p><b>Limitations (review team):</b> low response rate</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Further research on dental prosthetists' and dental hygienists' level of interest and involvement in dental care required, particularly with regard to screening and identification of dental problems.</p> <p><b>Funding sources:</b> Victorian Department of Human Services and the Cooperative Research Centre for Oral Health Sciences (CRC-OHS). The CRC-OHS's activities are funded by the Australian Government's</p>

		<p>region was selected to participate in the study. 31 Residential and Aged Care Facilities that had participated in a pilot project using dental hygienists to undertake screening examination of residents were also included.</p> <p><b>How were they recruited:</b> A questionnaire, plain language statement and stamped return envelope were mailed out. Non-responders were identified after four weeks, and a second questionnaire pack was mailed.</p> <p><b>exclusion criteria:</b> None stated</p> <p><b>inclusion criteria:</b> Working in eligible population.</p>		<p>Cooperative Research Centres program.</p> <p><b>Conflicts of interest:</b> None stated.</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Australia)</p>
<p><b>First author and year:</b> Jablonski 2009_HS</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> Purpose of study was to examine knowledge, beliefs and practices of nursing assistants (NAs) providing oral hygiene care to frail elders in nursing homes, with the intent of developing an educational program for NAs.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if</b></p>	<p><b>Setting</b> Nursing homes (in Virginia, USA?)</p> <p><b>Participants:</b> Nursing assistants (n=106). Majority female.</p> <p><b>What population were the sample recruited from:</b> NAs were recruited from 2 Nursing homes. NH1 was a 200-bed urban for-profit facility that received the</p>	<p><b>Brief description of method and process of analysis:</b> Data from the returned surveys were analyzed using descriptive statistics and t-tests run by the statistical software JMP 7.0. Data from open-ended questions were organized into themes.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> Unable to locate studies in which NAs were asked to complete visual analogue scales (VASs). Lack of distinction between mouthwash with fluoride and mouthwash without fluoride in survey. NAs may have had problems distinguishing between categories of products</p>

	<p><b>specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Oral Care Survey measuring the knowledge, beliefs, and self-reported practices of nursing assistants.</li> <li>• <b>By whom:</b> Research team</li> <li>• <b>What setting(s):</b> Participants' workplace.</li> <li>• <b>When:</b> Not stated</li> </ul>	<p>majority of its reimbursement from Medicaid. NH2 was a 250-bed suburban not for-profit facility that received the majority of its reimbursement from private-paying residents.</p> <p><b>How were they recruited:</b> NAs were approached and asked to complete survey during all shifts and weekends during a 30-day period.</p> <p><b>exclusion criteria:</b> Not stated.</p> <p><b>inclusion criteria:</b> Eligible population.</p>		<p>listed in the survey. Survey relied on the self-report of NAs.</p> <p><b>Limitations (review team):</b> low response rate</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> National Institute of Dental and Craniofacial Research</p> <p><b>Conflicts of interest:</b> None reported.</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (USA)</p>
<p><b>First author and year:</b> Jobman, 2012</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> To investigate the perceived comfort, behaviors, and barriers reported by group home caregivers while providing oral health care to individuals with special healthcare needs (SHCN).</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> 23-item survey</li> <li>• <b>By whom:</b></li> </ul>	<p><b>Setting</b> Group home facilities in Iowa, providing services and care to a range of adults with disabilities.</p> <p><b>Participants:</b> Caregivers N=428 (office supervisors, location staff, on-site supervisors, other) 27% female.</p> <p><b>What population were the sample recruited from:</b> Two of the largest group home facilities in Iowa City, Iowa, were chosen to be surveyed.</p> <p><b>How were they recruited:</b></p>	<p><b>Brief description of method and process of analysis:</b> Descriptive analyses were compiled to profile participants' demographic characteristics, perceived comfort, knowledge, behavior, and encountered barriers related to providing oral health care. Bivariate and logistic regression models were used to analyze data (<math>p &lt; 0.05</math>).</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> low response rate to the survey (32%)</p> <p><b>Limitations (review team):</b> only 2 homes and low response rate</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Future research must include a larger and more representative sample of this population.</p> <p><b>Funding sources:</b> Not stated.</p> <p><b>Conflicts of interest:</b></p>



	<p>Not stated.</p> <ul style="list-style-type: none"> <li>• <b>What setting(s):</b> Participants' workplace.</li> <li>• <b>When:</b> February 2010</li> </ul>	<p>Surveys were then delivered to the selected care facilities. A cover letter explaining consent was attached to the survey instrument.</p> <p><b>exclusion criteria:</b> Lack of direct care with individuals with SHCN.</p> <p><b>inclusion criteria:</b> Working as part of eligible population.</p>		<p>None stated.</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Iowa, USA)</p>
<p><b>First author and year:</b> Johnson, 1999</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> Aim was to assess available on-site dental services, existing oral health education and prevention programs as well as future needs/preferences, and the influence of ten factors thought to influence nursing staff's ability to assess and/or maintain residents' oral health.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire</li> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b> Participants' workplace.</li> </ul>	<p><b>Setting</b> Long-term care facilities in Nebraska, USA.</p> <p><b>Participants:</b> Directors of Nursing (n = 196)</p> <p><b>What population were the sample recruited from:</b> Directors of Nursing from the 206 Nebraska-licensed LTC facilities.</p> <p><b>How were they recruited:</b> Questionnaire mailed out. Two weeks after the initial mailing, postcards were sent to non-responders.</p> <p><b>exclusion criteria:</b> None stated.</p> <p><b>inclusion criteria:</b> Working in eligible population.</p>	<p><b>Brief description of method and process of analysis:</b> Statview 512+@ for Macintosh was used for data analysis. Percentages calculated.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• Undefined dental treatment access</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> Data presented should be interpreted with caution, given that 36% of DONs did not participate and that the views of DONs may differ from state to state and from other nursing staff members and facility administrators.</p> <p><b>Limitations (review team):</b> low response rate, results not presented for some of the analysis done</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> Not reported.</p> <p><b>Conflicts of interest:</b> None reported.</p> <p><b>Applicable to UK?</b> Yes non-UK applicable</p>



	<p>● <b>When:</b> Not stated</p>			(Nebraska, USA)
<p><b>First author and year:</b> Lindqvist, 2013</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> Aim was to explore in nursing homes for the elderly what professionals with different responsibilities consider important aspects of daily oral care.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> Grounded theory</p> <p><b>How were the data collected:</b></p> <p>● <b>What method(s):</b> Qualitative face-to-face interviews. Written guide containing demographic and open-ended questions used. Recorded and transcribed verbatim.</p> <p>● <b>By whom:</b> Two of the study authors (LL and BS)</p> <p>● <b>What setting(s):</b> Participants' workplace.</p> <p>● <b>When:</b> Not stated.</p>	<p><b>Setting</b> Nursing homes in three municipalities in the region of Varmland, Sweden</p> <p><b>Participants:</b> Range of professionals working in elderly care (n=23, 96% female, mean age 52 years)</p> <p><b>What population were the sample recruited from:</b> Professionals (care managers, registered nurses, nursing assistants) working in three nursing homes (one nursing home identified per region).</p> <p><b>How were they recruited:</b> Initial recruitment through Social Services Director. Subsequent recruitment carried out via process of snowball sampling (participants already recruited asked to identify further individuals to target for inclusion)</p> <p><b>exclusion criteria:</b> None stated</p> <p><b>inclusion criteria:</b> Professionals working in elderly care in one of the three nursing homes identified.</p>	<p><b>Brief description of method and process of analysis:</b> After saturation reached, a qualitative content analysis with both manifest and latent analyses was performed.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• cognitive</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> possibility of selection and response bias.</p> <p><b>Limitations (review team):</b> selection bias, no triangulation</p> <p><b>Evidence gaps and/or recommendations for future research:</b> None identified.</p> <p><b>Funding sources:</b> Supported by Folkvandarden Varmland, Sweden, and by The Swedish National Board of Health and Welfare.</p> <p><b>Conflicts of interest:</b> None reported</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (Sweden)</p>

<p><b>First author and year:</b> Longhurst, 2002</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> -</p> <p><b>External validity (surveys only)</b> -</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> Study aim was to find out if nursing/residential home managers experienced problems in obtaining domiciliary dental care for residents, and to assess the availability of local dental care.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Postal questionnaire</li> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b> Caregiver workplace.</li> <li>• <b>When:</b> Not stated</li> </ul>	<p><b>Setting</b> Residential care/nursing home services in Exeter district/Devon, UK</p> <p><b>Participants:</b> Dentists (n=148) and nursing/residential care home managers (n=80)</p> <p><b>What population were the sample recruited from:</b> British Dental Association (BDA) contacts (members and non-members) in the Exeter district, along with 80 nursing/residential homes from the same geographical area (identified using yellow pages).</p> <p><b>How were they recruited:</b> Questionnaires and cover letter posted out.</p> <p><b>exclusion criteria:</b> Not stated</p> <p><b>inclusion criteria:</b> Working within eligible/selected population.</p>	<p><b>Brief description of method and process of analysis:</b> Not stated by author – percentages calculated.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Bureaucracy and paperwork</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• practice related Resources and financial factor</li> <li>• Procedure: dental care access</li> <li>• Voice: care home staff</li> <li>• voice: dental</li> </ul>	<p><b>Limitations (author):</b> Not stated</p> <p><b>Limitations (review team):</b> closed question, self-report, unvalidated or piloted questionnaire, no consideration of potential confounders, method of analysis limited</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Not stated</p> <p><b>Funding sources:</b> Not stated</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> Yes, UK study (Devon)</p>
<p><b>First author and year:</b> MacEntee 1999 Thorne 2001</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity</b></p>	<p><b>What was/were the research questions:</b> Impact of oral health care program on residents of long-term care facility, and stakeholders' explanation for the effectiveness or ineffectiveness of their oral</p>	<p><b>Setting</b> Long-term care facility (LTC), British Columbia, Canada</p> <p><b>Participants:</b> 12 Long-term care facilities, 109 participants comprising</p>	<p><b>Brief description of method and process of analysis:</b> Interviews were conducted with participants until saturation was attained. Interviewers participated in a training prior to the commencement of the study. All interviews except one were recorded on audiotape and transcribed verbatim, field-notes were also written immediately after the interview to record participants' feelings and reactions. The collection and analyses of the data was non-linear by design. Findings were interpreted by cross-case</p>	<p><b>Limitations (author):</b> selection bias, limited clinical data</p> <p><b>Limitations (review team):</b> non-representative group selected for clinical examination</p>

<p><b>(surveys only)</b>  <b>Country</b>  Canada</p>	<p>health services  <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>  Analytic expansion  <b>How were the data collected:</b>  • <b>What method(s):</b>  Interviews, observation, clinical examination and documentary analysis  • <b>By whom:</b>  Interview: social worker and dental hygienist  Examination: dentist  • <b>What setting(s):</b>  long-term care facilities  • <b>When:</b>  1999</p>	<p>administrators, staff, dental personnel, residents and family members.  Residents: mean age 79, 55% female  <b>What population were the sample recruited from:</b>  LTC facilities in lower Mainland of British Colombia  <b>How were they recruited:</b>  Theoretical sampling based on oral health service delivery to the facilities  <b>exclusion criteria:</b>  not stated  <b>inclusion criteria:</b>  facilities with the pre-specified organisational strategy</p>	<p>analysis.  <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Patient factors Influencing</li> <li>• Bureaucracy and paperwork</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• Challenging to provide care</li> <li>• cognitive</li> <li>• Convenience or Inconvenience of providing care</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Health Dementia or Memory</li> <li>• Health Frail</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• patient characteristics</li> <li>• Patient health or mobility</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• patient relationship with dentist</li> <li>• Patient reporting or not reporting pain or discomfort</li> <li>• practice related Resources and financial factor</li> <li>• priority and importance of oral care and access amongst relatives</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> </ul>	<p><b>Evidence gaps and/or recommendations for future research:</b>  further studies to identify the appropriate mix and interaction of medical and dental personnel required to maintain oral health of residents  <b>Funding sources:</b>  part funding by Medical Research Council of Canada  <b>Conflicts of interest:</b>  not stated  <b>Applicable to UK?</b> yes</p>
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<p><b>First author and year:</b> Mahalaha, 2009</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> To determine Oral Cancer screening practices, knowledge and opinions of dentists working in nursing homes.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Postal questionnaire</li> <li>• <b>By whom:</b> Not specified</li> <li>• <b>What setting(s):</b> Participant workplace</li> <li>• <b>When:</b> May – August 2007.</li> </ul>	<p><b>Setting</b> Nursing homes in Ohio, USA</p> <p><b>Participants:</b> Dentists (n=75)</p> <p><b>What population were the sample recruited from:</b> Dentists who were serving in the 606 nursing homes in Ohio, who had indicated that a dentist served their facility.</p> <p><b>How were they recruited:</b> Questionnaires sent out along with cover letter and stamped addressed envelope. Incentives used in the form of a colour screening poster and summary of findings. Reminder cards sent out two weeks after first mailing. Three weeks later full set of study information sent out again.</p> <p><b>exclusion criteria:</b> Not reported.</p>	<p><b>Brief description of method and process of analysis:</b> Descriptive statistics were generated to describe respondents' current OC screening practices and opinions regarding OC screening competency. Bivariate analyses using t-test for continuous variables and Fisher's exact test for categorical variables were done to find significant relationships. Multivariate logistic regression analyses were done to examine a number of other relationships.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• knowledge</li> <li>• Procedure: dental care access</li> <li>• Procedure: Treatment needs identification</li> <li>• skills</li> <li>• Training</li> <li>• Voice: dental</li> </ul>	<p><b>Limitations (author):</b> Limited response rate (49%).</p> <p><b>Limitations (review team):</b> low response rate</p> <p><b>Evidence gaps and/or recommendations for future research:</b> May be of value to repeat in other long term care settings such as assisted living and independent living communities.</p> <p><b>Funding sources:</b> National Institutes of Health and the National Cancer Institute</p> <p><b>Conflicts of interest:</b> Not reported</p> <p><b>Applicable to UK?</b> Yes non-UK applicable (Ohio, USA)</p>

		<b>inclusion criteria:</b> Working in eligible population.		
<p><b>First author and year:</b> Maramaldi, 2014 (conference abstract)</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> What are the perceived benefits, barriers, and capacity of long-term care facilities to provide oral health care and oral cancer screening.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> An integrated theoretical model incorporating the Health Belief Model (a change model that predicts and explains health related behaviour), Transtheoretical Model (assessment of an individual's readiness to act on a new healthier behavior) and Implementation Science (integrating research findings and evidence into health care policy and practice) framed the qualitative interviews and analysis.</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Interviews and focus groups</li> <li>• <b>By whom:</b> Not stated</li> <li>• <b>What setting(s):</b></li> </ul>	<p><b>Setting</b> Long term care facilities, USA.</p> <p><b>Participants:</b> Long-term care administrators N= 10</p> <p><b>What population were the sample recruited from:</b> Not stated</p> <p><b>How were they recruited:</b> Not stated</p> <p><b>exclusion criteria:</b> Not stated</p> <p><b>inclusion criteria:</b> Not stated</p>	<p><b>Brief description of method and process of analysis:</b> Not stated.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Procedure: dental care access</li> <li>• Procedure: oral care</li> <li>• Procedure: Treatment needs identification</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Undefined dental treatment access</li> <li>• Voice: care home staff</li> </ul>	<p><b>Limitations (author):</b> Not stated</p> <p><b>Limitations (review team):</b> Insufficient data, single method</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Not stated</p> <p><b>Funding sources:</b> National Institute of Dental and Craniofacial Research.</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> Yes, non-UK applicable (USA)</p>

	Long-term care facilities <b>•When:</b> Not stated			
<b>First author and year:</b> Matear 2006 <b>Study design:</b> CSS <b>Quality score:</b> - <b>External validity (surveys only)</b> - <b>Country</b> Canada	<b>What was/were the research questions:</b> Investigation of the perceptions of caregivers in relation to the provision of oral health care services to care home residents without access to services <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a <b>How were the data collected:</b> <b>• What method(s):</b> questionnaires used in structured interviews <b>• By whom:</b> dental health care professional <b>• What setting(s):</b> Nursing homes <b>• When:</b> 2004	<b>Setting</b> Nursing homes in Simcoe County, Canada <b>Participants:</b> caregivers/family members N= 40 <b>What population were the sample recruited from:</b> cognitive residents of nursing homes that agreed to participate in the study <b>How were they recruited:</b> administrators of nursing homes without on-site dental services were contacted <b>exclusion criteria:</b> Cognitive impairment, Unavailable caregiver or designated family member, More than one main caregiver, resident in extremely poor health, with a poor prognosis, Those unwilling to participate in the study <b>inclusion criteria:</b> chronic care facilities without a dental programme or on-site dental facilities	<b>Brief description of method and process of analysis:</b> Residents were from a chronic care facility without dental programs/on—site dental services. Structured interviews using questionnaires were conducted with 40 caregivers/family members. Data was collected in hard copy and entered into Excel for descriptive analysis. <b>Key themes relevant to this review:</b> <ul style="list-style-type: none"><li>• Care home Factors</li><li>• dental treatment in practice access</li><li>• Non dental People as barrier or facilitator</li><li>• priority and importance of oral care and access amongst relatives</li><li>• Procedure dental care access</li><li>• relatives priority importance and support</li><li>• voice care home staff</li></ul>	<b>Limitations (author):</b> low response rate <b>Limitations (review team):</b> unvalidated questionnaire, no information about the development of the questionnaire, response rate of 40% <b>Evidence gaps and/or recommendations for future research:</b> financial investment in dental programme development is required to overcome the cost barriers <b>Funding sources:</b> not stated <b>Conflicts of interest:</b> none declared <b>Applicable to UK?</b> Yes, Canada
<b>First author and year:</b>	<b>What was/were the research</b>	<b>Setting</b>	<b>Brief description of method and process of analysis:</b>	<b>Limitations (author):</b>

<p>McKelvey 2003  <b>Study design:</b>          QS  <b>Quality score:</b>          +  <b>External validity (surveys only)</b>  <b>Country</b>          New Zealand</p>	<p><b>questions:</b>          investigation of the dental knowledge and attitude of care staff in long-term care facility  <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>          thematic analysis  <b>How were the data collected:</b>          • <b>What method(s):</b>          In-depth semi-structured interviews          • <b>By whom:</b>          one researcher          • <b>What setting(s):</b>          long-term care facility          • <b>When:</b>          2003</p>	<p>Long-term care facility, Dunedin, New-Zealand  <b>Participants:</b>          15 caregivers, 2 registered nurses, 1 nursing home manager and 2 facility managers  <b>What population were the sample recruited from:</b>          20 volunteer staff members from 3 facilities in Dunedin were selected  <b>How were they recruited:</b>          not stated how the homes were selected, interviewees were volunteers  <b>exclusion criteria:</b>          not stated  <b>inclusion criteria:</b>          not stated</p>	<p>A researcher conducted in-depth interviews with 20 staff members from 3 facilities. Interviews were recorded on audiotape and transcribed. Patterns and themes were identified. Transcripts were scrutinised by a second researcher.  <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• cognitive</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• knowledge</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient behaviour</li> <li>• Patient health</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Resident behaviour</li> <li>• resisting or challenging behaviour</li> <li>• skills</li> <li>• voice care home staff</li> <li>• voice Other or multiple people</li> </ul>	<p>use of volunteers  <b>Limitations (review team):</b> not stated how the homes were selected, data collection by one researcher  <b>Evidence gaps and/or recommendations for future research:</b>          training programs needed for nurses and care staff, guideline regarding oral hygiene care of residents should be implemented and monitored, dental professionals should work with care homes and staff to provide dental care to residents.  <b>Funding sources:</b>          Medical Assurance Society  <b>Conflicts of interest:</b>          not stated  <b>Applicable to UK? yes</b></p>
<p><b>First author and year:</b>          Monaghan 2010  <b>Study design:</b>          CSS  <b>Quality score:</b>          +  <b>External validity (surveys only)</b>          +  <b>Country</b>          UK</p>	<p><b>What was/were the research questions:</b>          barriers and facilitators to dental care access in care homes, training of staff and assumptions about residents' ability to chew.  <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a  <b>How were the data collected:</b></p>	<p><b>Setting</b>          Care homes, Wales  <b>Participants:</b>          Care home managers: 834 for questionnaires, and 123 for interviews  <b>What population were the sample recruited from:</b>          Care homes in Wales  <b>How were they recruited:</b>          all care homes in Wales</p>	<p><b>Brief description of method and process of analysis:</b>          Use of postal survey questionnaire and a 10% face-to-face interview with care home managers. 17 survey examiners undertook training and calibration exercise. They all administered the survey, conducted the interviews and entered the data using Dental Survey Plus 2. Data was analysed using SPSS and Excel 2003.  <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• dental domiciliary care access</li> <li>• dental treatment in practice access</li> <li>• Procedure dental care access</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b>          non-response bias  <b>Limitations (review team):</b> Unvalidated questionnaire, no precision estimates.  <b>Evidence gaps and/or recommendations for future research:</b>          training of care staff, oral health information of residents should be</p>



	<ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaires, interviews</li> <li>• <b>By whom: questionnaires</b> were posted, interviews by survey examiners</li> <li>• <b>What setting(s):</b> care home</li> <li>• <b>When:</b> 2006/7</li> </ul>	<p>were contacted</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> not stated</p>	<ul style="list-style-type: none"> <li>• Care home Factors</li> </ul>	<p>available, community dental services should support homes in developing policies, procedures and referral processes.</p> <p><b>Funding sources:</b> Welsh Assembly Governemnt funded training and calibration exercise</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Nitschke 2005</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Germany</p>	<p><b>What was/were the research questions:</b> barriers to provision of dental care to residents of care homes by dentists.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> semi-structured questionnaire</li> <li>• <b>By whom:</b> authors</li> <li>• <b>What setting(s):</b> dental office or their home</li> <li>• <b>When:</b> 2005?</li> </ul>	<p><b>Setting</b> Dental office or home, Berlin and Saxony, Germany</p> <p><b>Participants:</b> 180 dentists, Median age 42yrs, 58.9% females</p> <p><b>What population were the sample recruited from:</b> Dentist register in Berlin and Saxony</p> <p><b>How were they recruited:</b> random selection</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> not stated</p>	<p><b>Brief description of method and process of analysis:</b> Random selection of participants from dentist register. Sample consisted of 60 self-employed, and 60 employed dentists and 60 dentists who worked in their own practice and part-time in long-term care facility. A 36-statement questionnaire was administered in semi-structured interviews. Statistical analysis using SPSS. Differences were tested using the nonparametric Wilcoxon-test for paired data, the Mann–Whitney test for unpaired data as well as the chi-square test.</p> <p><b>Key themes (with illustrative quotes if available) relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Challenging to provide care</li> <li>• Dental Person Attitude or emotion</li> <li>• Dental Person competence and confidence</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental treatment in practice access</li> <li>• Procedure dental care access</li> <li>• voice dental</li> </ul>	<p><b>Limitations (author):</b> limited analysis due to CSS nature of study</p> <p><b>Limitations (review team):</b> questionnaire not validated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> post-graduate training programmes in gerodontology, financial and infrastructural aspect of dental care provision in long-term care facilities should be addressed by health politicians</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>



<p><b>First author and year:</b> Nitschke 2010</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Germany</p>	<p><b>What was/were the research questions:</b> contrast oral health utilisation patterns of frail older people with that of their nursing staff</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> structured interviews</li> <li>• <b>By whom:</b> Researchers</li> <li>• <b>What setting(s):</b> facilities</li> <li>• <b>When:</b> 2010</li> </ul>	<p><b>Setting</b> Care homes. Berlin Germany</p> <p><b>Participants:</b> 320 staff members, mean age of 40yrs, 172 clients, and median age of 82yrs. 82.5% females.</p> <p><b>What population were the sample recruited from:</b> Care homes in Berlin</p> <p><b>How were they recruited:</b> 2 stage sampling. At 1<sup>st</sup> stage, 15% of all facilities-home care service providers and long-term care facilities- were approached. 10 facilities were further selected from each group using computerised random sampling.</p> <p><b>exclusion criteria:</b> clients with cognitive impairments who could not give consent or follow instructions.</p> <p><b>inclusion criteria:</b> not stated</p>	<p><b>Brief description of method and process of analysis:</b> participants were selected using a 2 stage sampling procedure. Structured interviews were conducted using questionnaires and validated instruments. Statistical analysis using SPSS, use of chi-square test or Fisher's exact test.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Patient reporting or not reporting pain or discomfort</li> <li>• Procedure dental care access</li> <li>• Procedure Treatment needs identification</li> <li>• voice care home staff</li> <li>• voice Patient or care home resident</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• dental treatment in practice access</li> <li>• Health Frail</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> </ul>	<p><b>Limitations (author):</b> social acceptability bias, results may not be applicable to countries with different health system.</p> <p><b>Limitations (review team):</b> questionnaire not validated.</p> <p><b>Evidence gaps and/or recommendations for future research:</b> sensitisation of medical practitioners to oral health issues, training of care staff</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> the authors declared no conflict of interest</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Nunez 2011</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity</b></p>	<p><b>What was/were the research questions:</b> investigation of the opinions of dentists and directors of nursing (DONs) with regards to nursing home dental issues, factors influencing</p>	<p><b>Setting</b> dental office and nursing homes in Iowa, USA</p> <p><b>Participants:</b> 249 dentists-15% female, mean age 49.1yrs; 110 DONs-100% female, mean</p>	<p><b>Brief description of method and process of analysis:</b> A stratified random sample of dentists and DONs in Iowa were selected. They were mailed similar questionnaire. Questionnaire was composed of 5 yes-or-no questions, 5 objective questions and 20 questions involving the use of Likert scale. Space was also provided for comments. Descriptive analysis, bivariate analyses using chi-square test, and stepwise logistic regression analysis was</p>	<p><b>Limitations (author):</b> time constraints- study timeline did not allow for further follow-up of mailed questionnaire</p> <p><b>Limitations (review team):</b> low response rate</p>

<p>(surveys only) + <b>Country</b> USA</p>	<p>dental care provision in care homes, and knowledge of the existence of a dental program in Iowa <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a <b>How were the data collected:</b> • <b>What method(s):</b> questionnaire • <b>By whom:</b> Questionnaires were mailed • <b>What setting(s):</b> dental practice and nursing homes • <b>When:</b> not stated</p>	<p>age 44.9yrs <b>What population were the sample recruited from:</b> Dentists and DONs in Iowa <b>How were they recruited:</b> stratified random sampling of 400 dentists and 200 DONs <b>exclusion criteria:</b> None <b>inclusion criteria:</b> all practicing dentists and DONs in Iowa</p>	<p>conducted. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Patient Financial and Resources</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• priority and importance of oral care and access amongst relatives</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Providing care outside surgery</li> <li>• relatives priority importance and support</li> <li>• resisting or challenging behaviour</li> <li>• Training</li> <li>• voice care home staff</li> <li>• voice dental</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• Challenging to provide care</li> <li>• cognitive</li> <li>• dental practice as a training provider</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Health Complex Health Conditions</li> <li>• Health Conditions with Uncooperative Behaviour</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient cost related factors</li> <li>• Access or availability of services</li> </ul>	<p><b>Evidence gaps and/or recommendations for future research:</b> studies to ascertain the effectiveness of geriatrics course for dental students, investigation of the disconnection between dentists and nursing homes. Further studies to investigate oral health assessment, oral hygiene care and dental treatment in nursing homes. <b>Funding sources:</b> NIH/NIDCR T32DE014678 <b>Conflicts of interest:</b> not stated <b>Applicable to UK?</b> yes</p>
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<p><b>First author and year:</b> Paley 2009</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Australia</p>	<p><b>What was/were the research questions:</b> Investigation of the perceptions and attitudes of residents and family towards oral health care and access to dental services for aged care facility residents</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> Thematic analysis</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Focus groups and individual interviews</li> <li>• <b>By whom:</b> research officer</li> <li>• <b>What setting(s):</b> aged care facilities</li> <li>• <b>When:</b> 2009?</li> </ul>	<p><b>Setting</b> Aged care facilities, Perth Metropolitan Area, Australia</p> <p><b>Participants:</b> 21 Residents-80% female, median age 82years; 9 Family caregivers- 88% female, median age 66years</p> <p><b>What population were the sample recruited from:</b> Aged care facilities</p> <p><b>How were they recruited:</b> Using the Western Australia aged care directory, 6 facilities were randomly selected and purposive selection of 8 facilities, and 2 were excluded. Participants were recruited with flyers and by contacting people.</p> <p><b>exclusion criteria:</b> facilities providing only independent living arrangements,</p> <p><b>inclusion criteria:</b> residents and family members of selected facilities</p>	<p><b>Brief description of method and process of analysis:</b> 30 participants from 12 facilities. 5 focus groups with all participants, and 3 face-to-face interviews with residents. Focus groups and interviews were conducted after scheduled resident and family meetings in the facility. Audiotapes and field notes was used for data collection, these were transcribed and analysed using QSR NUD*IST4. Diverse concepts, themes and patterns were identified which was used in coding, grouping and interpretation of data.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Patient or care home resident factors</li> <li>• Patient travel or transport</li> <li>• practice related Resources and financial factor</li> <li>• priority and importance of oral care and access amongst relatives</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedure Treatment needs identification</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Providing care outside surgery</li> <li>• relative support</li> <li>• relatives priority importance and support</li> <li>• voice Patient or care home resident</li> <li>• voice Relative</li> <li>• Patient behaviour</li> <li>• Patient cost related factors</li> <li>• Patient Financial and Resources</li> <li>• Patient health</li> <li>• Patient health or mobility</li> <li>• Patient mobility</li> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• check-up routines</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> </ul>	<p><b>Limitations (author):</b> selection bias, small sample size.</p> <p><b>Limitations (review team):</b> small sample size</p> <p><b>Evidence gaps and/or recommendations for future research:</b> studies investigating factors that improve oral health, needs of people with poor health, cognitive impairment and those from non-English speaking backgrounds.</p> <p><b>Funding sources:</b> Department of Health (Western Australia)</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
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			<ul style="list-style-type: none"> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient Attitude or emotion</li> </ul>	
<p><b>First author and year:</b> Paulsson 1998, 2003</p> <p><b>Study design:</b> Paulsson 1998 UBA Paulsson 2003 CSS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> the effect of an oral health education program</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> distributed by the person in charge at each facility</li> <li>• <b>What setting(s):</b> Special housing facilities-nursing homes, homes for the aged, other types of care homes for the elderly and handicaps</li> <li>• <b>When:</b> 1998, 2003</li> </ul>	<p><b>Setting</b> Special housing facilities, Southwest Sweden.</p> <p><b>Participants:</b> 132 housing facilities, 1551 nursing personnel: 776 had high level of health care education (HHCE), 755 had low level of health care education (LHCE)</p> <p>2003: 2901 Survey participants; 950 had participated in the 1998 study, 974 had not, 97% female, mean age 43.6years.</p> <p><b>What population were the sample recruited from:</b> from special housing facilities in 5 municipalities</p> <p><b>How were they recruited:</b> All nursing personnel in special housing facilities in 5 municipalities in south-western Sweden were recruited</p> <p><b>exclusion criteria:</b> lack of information regarding their professional status</p>	<p><b>Brief description of method and process of analysis:</b> Participants were offered an oral health education program. This consisted of four one-hour lessons in groups not exceeding 30 persons. Trained instructors delivered it. Pre-educational, 1-2 months and 3 years post-educational questionnaires were distributed to participants. Only participants who attended program were included in the analysis of the 1-2 months post educational questionnaire. Descriptive analysis, use of Fisher's exact test, Wilcoxon-Mann-Whitney test, multiple regression analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> high dropout rate in the LHCE group,</p> <p><b>Limitations (review team):</b> low response rate</p> <p><b>Evidence gaps and/or recommendations for future research:</b> studies investigating oral health status of care receivers in special facilities and elderly people receiving nursing care at home</p> <p><b>Funding sources:</b> Swedish Board of Health and Welfare, Stockholm, Sweden, the Halland County Council, Halmstad, Sweden, and Halmstad University, Halmstad, Sweden</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>

		<b>inclusion criteria:</b> nursing personnel in selected facilities		
<p><b>First author and year:</b> Pickard 2005</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> investigation of factors influencing willingness of dental hygienists to work in long term care facilities</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> mailed questionnaire</li> <li>• <b>What setting(s):</b> dental practice</li> <li>• <b>When:</b> late summer of 1995</li> </ul>	<p><b>Setting</b> Kansas, USA</p> <p><b>Participants:</b> 839 hygienists</p> <p><b>What population were the sample recruited from:</b> Dental hygienists in Kansas</p> <p><b>How were they recruited:</b> All eligible hygienists were mailed a questionnaire, those who responded were included in the study</p> <p><b>exclusion criteria:</b> Dental hygiene students, non-practicing hygienists, and names with undeliverable addresses</p> <p><b>inclusion criteria:</b> licensed and practicing dental hygienists in Kansas</p>	<p><b>Brief description of method and process of analysis:</b> Questionnaires were mailed to all licensed and practicing dental hygienists in Kansas. Questions relating to job satisfaction, desire to work in long-term care facility, competency, and career commitment were asked. The Data analyses was performed using descriptive contingency tables, Mantel-Haenszel chi-square statistics, and Somers' D.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Challenging to provide care</li> <li>• cognitive</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental team</li> <li>• knowledge</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Training</li> <li>• voice dental</li> </ul>	<p><b>Limitations (author):</b> not stated</p> <p><b>Limitations (review team):</b> not stated if questionnaires were validated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> research to determine whether the personal attributes of dental hygiene applicants and the career configurations available to graduates can be utilized to narrow the supply and demand gap in care homes.</p> <p><b>Funding sources:</b> Partial support provided by Allied Health Projects Grant number AH00497-01.</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Pratelli 1998</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity</b></p>	<p><b>What was/were the research questions:</b> Investigation of care managers' experiences in obtaining services for their clients</p> <p><b>What theoretical approach</b></p>	<p><b>Setting</b> Inner London boroughs of Lambeth, Southwark and Lewisham</p> <p><b>Participants:</b> Care managers or their</p>	<p><b>Brief description of method and process of analysis:</b> A letter explaining the study was sent to care home managers, within 2 weeks the interviewer telephoned the homes to make an appointment for the interviews. Either the care home mangers or a deputy suggested by them was interviewed. Interviews involved use of closed questions and unstructured questioning. Notes were made and participants approved of the notes that were taken. Members</p>	<p><b>Limitations (author):</b> May not be generalizable to other districts as dental services vary in different places or to people living at home with relatives or guardian</p>

<p><b>(surveys only)</b> <b>Country</b> UK</p>	<p><b>(e.g. grounded theory, IPA) does the study take (if specified):</b> Thematic analysis <b>How were the data collected:</b> • <b>What method(s):</b> Interviews • <b>By whom:</b> Author • <b>What setting(s):</b> Care homes • <b>When:</b> not stated</p>	<p>delegated representatives. 75 managers, 80 homes <b>What population were the sample recruited from:</b> Care homes listed in June 1996 by the registration and inspection units of the boroughs' social services departments <b>How were they recruited:</b> A letter was sent to care home managers. <b>exclusion criteria:</b> not stated <b>inclusion criteria:</b> not stated</p>	<p>of the care team or residents were present at the interviews occasionally. Quantitative data was analysed using Excel, themes were identified from the qualitative data. Final report was sent to interviewees for comments. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• cognitive</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient health or mobility</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (review team):</b> not stated the number of people involved in the coding of the data <b>Evidence gaps and/or recommendations for future research:</b> not stated <b>Funding sources:</b> not stated <b>Conflicts of interest:</b> not stated <b>Applicable to UK? yes</b></p>
<p><b>First author and year:</b> Pyle 1999 <b>Study design:</b> CSS <b>Quality score:</b> ++ <b>External validity (surveys only)</b> + <b>Country</b></p>	<p><b>What was/were the research questions:</b> To investigate nursing assistants' knowledge, attitude and motivation for oral care to themselves and others, and barriers to oral care provision. <b>What theoretical approach (e.g. grounded theory, IPA)</b></p>	<p><b>Setting</b> Skilled long-term care nursing facility, Midwestern metropolitan county, USA <b>Participants:</b> 89 nursing assistants responded, mean age 42.5years, 95.45% females, 56.3% had training beyond</p>	<p><b>Brief description of method and process of analysis:</b> A 28-item oral health survey instrument was developed, 8 demographic and general information questions and a 20-item oral health section. The surveys were attached to the nursing assistants' timesheet and returned to the nursing staff when completed. Data was analysed using SPSS. Descriptive statistics was used for demographic and general information variables, chi-square statistic or Fisher's exact test was used for categorical variables. A factor analysis was performed with varimax rotation. <b>Key themes relevant to this review:</b></p>	<p><b>Limitations (author):</b> use of one facility and results may not be generalizable to others, non-response by some assistants <b>Limitations (review team):</b> not stated why and how only one facility was selected</p>

<p>USA</p>	<p><b>does the study take (if specified):</b> n/a  <b>How were the data collected:</b>  <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> attached to timesheets</li> <li>• <b>What setting(s):</b> nursing facility</li> <li>• <b>When:</b> 1999?</li> </ul> </p>	<p>high school  <b>What population were the sample recruited from:</b>  A skilled long-term care nursing facility in Midwestern metropolitan county  <b>How were they recruited:</b>  All nursing assistants at the facility were asked to participate  <b>exclusion criteria:</b>  incomplete surveys  <b>inclusion criteria:</b>  all nursing assistants</p>	<ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p><b>Evidence gaps and/or recommendations for future research:</b>  further research needed to explore factors that are important to providing oral care, refinement of the 20-item instrument and its application in other facilities  <b>Funding sources:</b>  not stated  <b>Conflicts of interest:</b>  not stated  <b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b>  Pyle 2005  <b>Study design:</b>  CSS  <b>Quality score:</b>  -  <b>External validity (surveys only)</b>  -  <b>Country</b>  USA</p>	<p><b>What was/were the research questions:</b>  To investigate the value placed on oral health by executive directors (ED) of facilities and to determine facility variables that may influence oral health  <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a  <b>How were the data collected:</b>  <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> mailed survey</li> <li>• <b>What setting(s):</b> Long-term care facilities</li> <li>• <b>When:</b></li> </ul> </p>	<p><b>Setting</b>  Long-term care facilities, Ohio, USA  <b>Participants:</b>  338 executive directors  <b>What population were the sample recruited from:</b>  Long-term care facilities in Ohio  <b>How were they recruited:</b>  All executive directors were contacted  <b>exclusion criteria:</b>  not stated  <b>inclusion criteria:</b>  not stated</p>	<p><b>Brief description of method and process of analysis:</b>  A 30-item survey was mailed to all EDs. Information regarding the facility, EDs, the EDs' perception of the level of oral health and value statements were rated on a Likert scale. The responses were coded, allowing for a second follow-up letter to non-responding facilities. Results were analysed using SPSS. Descriptive analysis and chi-square test was undertaken.  <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• dental treatment in practice access</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b>  Low response rate, limited generalisability  <b>Limitations (review team):</b> questionnaire not piloted or validated. Low response rate  <b>Evidence gaps and/or recommendations for future research:</b>  further research into the discontinuity between oral health statements in this study and perceptions of satisfaction  <b>Funding sources:</b>  Not stated  <b>Conflicts of interest:</b>  Not stated  <b>Applicable to UK?</b> yes</p>



	2005?			
<p><b>First author and year:</b> Rabbo 2010</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Germany</p>	<p><b>What was/were the research questions:</b> To investigate nursing home managers' perceptions and attitudes towards oral health care and access to dental services for aged care facility residents</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire</li> <li>• <b>By whom:</b> Mailed questionnaire</li> <li>• <b>What setting(s):</b> Nursing homes</li> <li>• <b>When:</b> 2006</li> </ul>	<p><b>Setting</b> Nursing homes, Saarland Germany</p> <p><b>Participants:</b> 114 contacted, 43 administrators of nursing homes responded</p> <p><b>What population were the sample recruited from:</b> Nursing homes</p> <p><b>How were they recruited:</b> All administrators were mailed a questionnaire</p> <p><b>exclusion criteria:</b> Incomplete questionnaire</p> <p><b>inclusion criteria:</b> administrators at selected homes</p>	<p><b>Brief description of method and process of analysis:</b> Pre-tested questionnaires, comprising 28 closed-ended questions and one open-ended question, were mailed to all 114 nursing homes in Saarland. A letter explaining the purpose of the study accompanied this. Results were analysed using descriptive statistics. Absolute and relative frequencies were calculated using SPSS.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Treatment needs identification</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> Limited generalisability due to low response rate</p> <p><b>Limitations (review team):</b> Insufficient analysis of results, low response rate</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> Not stated</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Reed 2006</p> <p><b>Study design:</b> UBA</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b></p>	<p><b>What was/were the research questions:</b> To assess residents' oral health status and oral health related quality of life, and the attitude and knowledge of care providers</p> <p><b>What theoretical approach (e.g. grounded theory, IPA)</b></p>	<p><b>Setting</b> Urban extended care facility, USA</p> <p><b>Participants:</b> 137 residents, 58.1% females, mean age 67.7 years, 91% African-American</p>	<p><b>Brief description of method and process of analysis:</b> Project staff conducted 8 oral health education seminars for care providers, this included hands-on demonstration. Face-to-face interviews were conducted with residents to collect information on oral health behaviours, and oral health related quality of life using the OHIP-14. Oral examinations was performed on residents by community health staff and dental students. Care providers completed pre and post test questionnaire. Frequencies, means and SDs were used to present findings. One-sample test and t-tests were</p>	<p><b>Limitations (author):</b> not stated</p> <p><b>Limitations (review team):</b> &lt; 3months follow-up, potential of selection bias</p> <p><b>Evidence gaps and/or recommendations for future research:</b></p>



<p>USA</p>	<p><b>does the study take (if specified):</b> n/a  <b>How were the data collected:</b>  <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Residents: Interviews and Oral Health Impact Profile (OHIP-14), an OHRQoL questionnaire Care providers: oral health knowledge (OHK) Questionnaires</li> <li>• <b>By whom:</b></li> <li>• <b>What setting(s):</b> nursing home</li> <li>• <b>When:</b> 2006</li> </ul> </p>	<p>22 care providers: 64.3% female, mean age 44.3 years.  <b>What population were the sample recruited from:</b> An extended care facility  <b>How were they recruited:</b> Self-selecting  <b>exclusion criteria:</b> not stated  <b>inclusion criteria:</b> All consenting residents who were physically able to participate</p>	<p>also performed.  <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient behaviour</li> <li>• Patient Financial and Resources</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• toothbrush and oral equipment ownership</li> <li>• voice care home staff</li> <li>• voice Patient or care home resident</li> </ul>	<p>not stated  <b>Funding sources:</b> The Healthcare Foundation of New Jersey  <b>Conflicts of interest:</b> not stated  <b>Applicable to UK? yes</b></p>
<p><b>First author and year:</b> Reznick 2002  <b>Study design:</b> CSS  <b>Quality score:</b> -  <b>External validity (surveys only)</b> -  <b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> Investigation of primary caregivers' perceptions of need for dental care in seniors living in long-term care facilities.  <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a  <b>How were the data collected:</b>  <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Telephone survey</li> <li>• <b>By whom:</b> Author?</li> <li>• <b>What setting(s):</b> Long-term care facility</li> <li>• <b>When:</b> July-August 2000</li> </ul> </p>	<p><b>Setting</b> Long-term care facility, Canada  <b>Participants:</b> 25 caregivers; 88% female, median age 59.2 years  <b>What population were the sample recruited from:</b> Caregivers in long term care facility  <b>How were they recruited:</b> Senior residents were approached to seek approval to contact their caregivers. Caregivers were asked to participate after consent has been received from their senior residents  <b>exclusion criteria:</b> Caregivers who could not</p>	<p><b>Brief description of method and process of analysis:</b> A telephone survey was conducted with caregivers who volunteered information. It was a 27-item survey and included demographic information of caregivers, participants rated 16 dental services based on their perceived need for these services by the residents. Participants ranked these services on a categorical scale according to importance. Descriptive analysis of results.  <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Providing care outside surgery</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> limited generalisability, small sample size, Difficulty in reaching caregivers by telephone, selection bias due to the fact that seniors in this study were regular attenders at a dental clinic  <b>Limitations (review team):</b> method of selection of care home not stated, small sample size, insufficient analysis  <b>Evidence gaps and/or recommendations for future research:</b> Similar studies needed with a larger sample size</p>

		be reached by telephone or whose senior residents refused to consent <b>inclusion criteria:</b> Consent by senior residents		<b>Funding sources:</b> Baycrest Centre for Geriatric Care provided some resources <b>Conflicts of interest:</b> not stated <b>Applicable to UK?</b> yes
<p><b>First author and year:</b> Schembri 2005</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Malta/Gozo</p>	<p><b>What was/were the research questions:</b> Assessment home managers' knowledge and care staff' assistance regarding residents' oral health and hygiene; and evaluation of residents' demand for dental treatment and managers response to the demand</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> mailed questionnaire</li> <li>• <b>What setting(s):</b> Residential homes</li> <li>• <b>When:</b> 2005?</li> </ul>	<p><b>Setting</b> Residential homes, Malta and Gozo</p> <p><b>Participants:</b> 33 home managers 1982 residents; 70% female</p> <p><b>What population were the sample recruited from:</b> Residential homes in Malta and Gozo</p> <p><b>How were they recruited:</b> All licensed residential homes were contacted</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> all homes were contacted</p>	<p><b>Brief description of method and process of analysis:</b> A 19-item questionnaire was designed, piloted and sent to home managers. Questionnaire included questions regarding dental care provision for their elderly residents. A reminder was sent to all homes before the one-month time limit. Descriptive analysis was undertaken.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Bureaucracy and paperwork</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• health problems</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient behaviour</li> <li>• Patient Financial and Resources</li> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Patient reporting or not reporting pain or discomfort</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> </ul>	<p><b>Limitations (author):</b> not stated</p> <p><b>Limitations (review team):</b> analysis insufficient</p> <p><b>Evidence gaps and/or recommendations for future research:</b> An in-service oral health care training for staff should be developed, develop oral health care code of practice for homes, raise home managers awareness of domiciliary care services</p> <p><b>Funding sources:</b> Not stated</p> <p><b>Conflicts of interest:</b> Not stated</p> <p><b>Applicable to UK?</b> yes</p>

			<ul style="list-style-type: none"> <li>toothbrush and oral equipment ownership</li> <li>Undefined dental treatment access</li> <li>voice care home staff</li> </ul>	
<p><b>First author and year:</b> Simons 1999</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> Investigation of residents' attitudes to using antimicrobial chewing gum as an oral health aid, and the opinion of their carers regarding it.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li><b>What method(s):</b> structured interview using questionnaire</li> <li><b>By whom:</b> Dental staff</li> <li><b>What setting(s):</b> Residential/nursing homes</li> <li><b>When:</b> January 1998</li> </ul>	<p><b>Setting</b> Residential/Nursing homes, West Hertfordshire, UK</p> <p><b>Participants:</b> 207 residents;71.5% female mean age 82.23 years</p> <p>47 carers, 100% females, mean age 35.9 years, 72.3% no formal training, 15% had attended college/NVQ and 12.7% registered nurses</p> <p><b>What population were the sample recruited from:</b> Residential/nursing homes in West Hertfordshire</p> <p><b>How were they recruited:</b> Random selection from a larger sample size included in another study</p> <p><b>exclusion criteria:</b> Poor health, inability to cooperate, refusal</p> <p><b>inclusion criteria:</b> Residents who could chew gum without confusion</p>	<p><b>Brief description of method and process of analysis:</b> Selected homes were offered antimicrobial chewing gum containing chlorhexidine acetate/xylitol to chew twice daily for 7 days. Carers offered 2 pieces of gum to residents who could chew gum without causing confusion. The gum was distributed after breakfast and evening meal and chewed for 10minutes. All participants completed questionnaires in form of an interview before and after the study. Analysis of data was done using SPSS. Categorical data was compared using chi-square test.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>Care home Factors</li> <li>Patient asking for help with oral care or treatment</li> <li>Patient behaviour</li> <li>Patient or care home resident factors</li> <li>Procedure oral care</li> <li>Procedures and tasks relating to Oral care</li> <li>voice Patient or care home resident</li> </ul>	<p><b>Limitations (author):</b> not stated</p> <p><b>Limitations (review team):</b> questionnaire not piloted or validated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> Shirley Glasstone- Hughes Memorial fund, chewing gums produced by Fertin A/S, Denmark</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Smith 2010</p> <p><b>Study design:</b></p>	<p><b>What was/were the research questions:</b> To determine administrators'</p>	<p><b>Setting</b> ALTCF, Michigan USA</p> <p><b>Participants:</b></p>	<p><b>Brief description of method and process of analysis:</b> A 24-item close-ended questionnaire was developed and piloted. It included questions regarding demographics, facility oral health</p>	<p><b>Limitations (author):</b> non response bias, measurement error</p>

<p>CSS <b>Quality score:</b> + <b>External validity (surveys only)</b> + <b>Country</b> USA</p>	<p>perceptions of oral health care access, adequacy, and barriers to improved oral health in their facilities <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a <b>How were the data collected:</b> • <b>What method(s):</b> questionnaires • <b>By whom:</b> mailed questionnaire • <b>What setting(s):</b> Alternative long-term care facility (ALTCF) • <b>When:</b> November 2005</p>	<p>508 facilities, 90% administrators/owner, 1% Director of nursing, 1% social worker, 9% others <b>What population were the sample recruited from:</b> ALTCF in Michigan <b>How were they recruited:</b> from a list of all ALTCF <b>exclusion criteria:</b> not stated <b>inclusion criteria:</b> Facilities licensed to serve residents aged ≥ 60 years, complete valid mailing addresses</p>	<p>barriers, resources, policies and procedures, and administrators' knowledge and perceptions. Data were entered into Access database and analysed using SAS. Descriptive statistics, univariate and bivariate analysis was undertaken. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (review team):</b> low response rate, no precision estimates <b>Evidence gaps and/or recommendations for future research:</b> not stated <b>Funding sources:</b> UM Geriatrics Center/Claude Pepper Older Americans Independence Center Pilot Grant, and the UM Undergraduate Research Opportunity Program (UROP). <b>Conflicts of interest:</b> not stated <b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Sonde 2011 <b>Study design:</b> QS <b>Quality score:</b> + <b>External validity (surveys only)</b> <b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> To describe care providers' perception of and reasoning for oral care for residents with dementia, and registered nurses (RN) reasoning concerning their responsibility for monitoring oral care interventions. <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> Qualitative content analysis according to Graneheim and Lundman <b>How were the data collected:</b></p>	<p><b>Setting</b> Nursing homes, Stockholm Sweden <b>Participants:</b> 9 Care providers: mean age 40.3, 100% female, 4 RNs <b>What population were the sample recruited from:</b> Nursing homes <b>How were they recruited:</b> Purposive sampling of homes. Voluntary participation. <b>exclusion criteria:</b> not stated <b>inclusion criteria:</b> Participants with at least 1</p>	<p><b>Brief description of method and process of analysis:</b> Sub-study I involved focus group discussions with nursing home staff with different professional positions. The interviews were semi-structured and carried out in form of a dialogue. Interviews were recorded and transcribed verbatim for analysis. Sub-study II involved semi-structured interviews with RNs at a time and place suggested by the informant. All interviews were recorded and transcribed verbatim. Analysis of the studies involved use of codes and themes. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• cognitive</li> <li>• Health Dementia or Memory</li> <li>• Patient behaviour</li> <li>• Patient health</li> <li>• Patient health or mobility</li> </ul>	<p><b>Limitations (author):</b> not stated <b>Limitations (review team):</b> No feedback to participants, no discussion of discrepant results (though there may have been none). No detailed comparison across sites <b>Evidence gaps and/or recommendations for future research:</b> Findings should be used as a basis for future research. Systematic quality assurance work needed in this field.</p>

	<ul style="list-style-type: none"> <li>• <b>What method(s):</b> Sub-study I- Care providers: focus groups Sub-study II- RN: interviews</li> <li>• <b>By whom:</b> Author- a RN</li> <li>• <b>What setting(s):</b> nursing home units specialized in dementia care</li> <li>• <b>When:</b> 2011</li> </ul>	<p>years' experience of working with dementia patient</p>	<ul style="list-style-type: none"> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Resident behaviour</li> <li>• resisting or challenging behaviour</li> <li>• voice Author</li> <li>• voice care home staff</li> </ul>	<p><b>Funding sources:</b> KC-Kompetenszentrum Research and Development Center and Swedish Brain Power. <b>Conflicts of interest:</b> No conflict of interest <b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Tham 2013 <b>Study design:</b> QS <b>Quality score:</b> ++ <b>External validity (surveys only)</b> <b>Country</b> Australia</p>	<p><b>What was/were the research questions:</b> dentists, care staff and residents' perspectives of major issues involved in providing and accessing oral health care in rural aged care services <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> thematic analysis <b>How were the data collected:</b> • <b>What method(s):</b> structured interviews and focus group • <b>By whom:</b> Author • <b>What setting(s):</b> care home and dental clinic • <b>When:</b> not stated</p>	<p><b>Setting</b> Aged care services, Victoria Australia <b>Participants:</b> Interviews: 5 dentists- 60% female, 3 care nurse- 100% female, 6 residents- 33% female Focus groups: 10 care nurse, 3 carers - 92% female <b>What population were the sample recruited from:</b> Aged care services located in Victoria, Dentists within the local government area of the homes <b>How were they recruited:</b> Purposive selection of homes due to their interest in the study. Residents and care staff were recruited through the care service where they resided or worked</p>	<p><b>Brief description of method and process of analysis:</b> In-depth structured interviews were conducted with participants to identify barriers and facilitators to oral health care provision. Focus group discussions were conducted at 3 sites with care staff. Author conducted the interviews and focus group discussions, which were audio-recorded along with field notes and transcribed. Coding, grouping, interpretation and thematic analysis for themes and patterns was undertaken independently by 2 authors. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• Challenging to provide care</li> <li>• check-up routines</li> <li>• cognitive</li> <li>• dental domiciliary care access</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Health Dementia or Memory</li> <li>• health problems</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient asking for help with oral care or treatment</li> </ul>	<p><b>Limitations (author):</b> limited applicability to other areas, needs of participants from culturally and linguistically diverse background was not addressed. <b>Limitations (review team):</b> Purposive selection of homes due to their interest in the study. <b>Evidence gaps and/or recommendations for future research:</b> not stated <b>Funding sources:</b> not stated <b>Conflicts of interest:</b> no conflicts of Interest. <b>Applicable to UK?</b> yes</p>

		<p>Letter of invitation written to dentists within the area the homes were located.</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> Residents who could provide informed consent</p>	<ul style="list-style-type: none"> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient cost related factors</li> <li>• Patient Financial and Resources</li> <li>• Patient health as a priority</li> <li>• Patient health or mobility</li> <li>• Patient mobility</li> <li>• Patient or care home resident factors</li> <li>• Patient reporting or not reporting pain or discomfort</li> <li>• practice related Resources and financial factor</li> <li>• priority and importance of oral care and access amongst relatives</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Providing care outside surgery</li> <li>• relatives priority importance and support</li> <li>• resident pre-existing oral health</li> <li>• resisting or challenging behaviour</li> <li>• skills</li> <li>• voice care home staff</li> <li>• voice dental</li> <li>• voice Patient or care home resident</li> </ul>	
<p><b>First author and year:</b> Thole 2010</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> Investigation of care providers' attitudes and activities to oral hygiene care in Intermediate Care Facilities for the Mentally Retarded (ICF/MR)</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p>	<p><b>Setting</b> 2 urban and 1 rural Intermediate care facilities, Iowa USA</p> <p><b>Participants:</b> 3 ICF/MR, 138 care providers: mean age 32.8 years, 84.8% female, 87% white, 58% had attended college or higher</p>	<p><b>Brief description of method and process of analysis:</b> Questionnaires were distributed to care providers who attended an informational meeting at each site for both morning and evening shift. Questionnaire was used in a previous Iowa nursing home study and contained closed ended questions and questions involving the use of Likert scale. Questionnaires were returned immediately or mailed. Dental in-service was given to all attendees after questionnaires were returned. Data was analysed with SPSS using frequency distributions, chi-square test, bivariate analysis and multiple logistic regression.</p> <p><b>Key themes relevant to this review:</b></p>	<p><b>Limitations (author):</b> limited generalisability, self-reported questionnaire,</p> <p><b>Limitations (review team):</b> self-report</p> <p><b>Evidence gaps and/or recommendations for future research:</b> more observational and qualitative studies</p>

	<p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire</li> <li>• <b>By whom:</b> Distributed by authors</li> <li>• <b>What setting(s):</b> ICF</li> <li>• <b>When:</b> 2010?</li> </ul>	<p>education.</p> <p><b>What population were the sample recruited from:</b> ICF/MR in northwest Iowa</p> <p><b>How were they recruited:</b> Convenience sampling of facilities.</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> care providers who participated in informational meeting about the study</p>	<ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p>needed regarding oral health care provision for residents by care providers in ICF/MRs, relationship of behavioural problem to oral health care should be explored in future studies</p> <p><b>Funding sources:</b> University of Iowa, College of Dentistry, Dental Research Award.</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Turner 2009</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> comparison of dentists and care staff attitudes regarding factors that might contribute to oral health risk assessment protocol for adults with learning disabilities</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire</li> <li>• <b>By whom:</b> mailed survey</li> <li>• <b>What setting(s):</b> Dental practice, care homes and voluntary organisations</li> <li>• <b>When:</b></li> </ul>	<p><b>Setting</b> Dental practice, Care homes, Voluntary organisations, Scotland</p> <p><b>Participants:</b> 179 dentists, 36 care home staff, 10 other social care staff, 65% female</p> <p><b>What population were the sample recruited from:</b> Dentists, dental service managers, Consultants, GDPs, Care home managers, Voluntary organisations and statutory sector managers involved in the care of adults with learning disabilities</p> <p><b>How were they recruited:</b> Eligible participants were identified from registers,</p>	<p><b>Brief description of method and process of analysis:</b> 39 OHRA elements questionnaire was posted to participants, who had to rate the importance of the elements using a scale. The four themes covered by the elements were; care, risk factors, follow-up and integration. Data was analysed using SPSS. Principle component analysis was undertaken, Internal consistency of the four scales were assessed using Cronbach's Alphas, T-tests and ANOVA were also conducted.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• cognitive</li> <li>• Health Learning difficulty or Intellectual</li> <li>• heath problems</li> <li>• Non dental People as barrier or facilitator</li> <li>• Patient behaviour</li> <li>• Patient health or mobility</li> <li>• Patient mobility</li> <li>• Patient or care home resident factors</li> <li>• priority and importance of oral care and access amongst relatives</li> </ul>	<p><b>Limitations (author):</b> Views of care staff providing services for community based residents was not adequately considered.</p> <p><b>Limitations (review team):</b> low response rate a potential source of bias</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> EASTREN Research Bursary No. 123/05.</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>



	mid-May 2006	capitation fee records, care commission directory of care homes in Scotland, Website searches, emails and telephone calls. Only care home staff were randomly selected after identification. <b>exclusion criteria:</b> Those who were not involved in the care of people with learning disabilities <b>inclusion criteria:</b> Care providers involved with adults with learning disabilities in Scotland	<ul style="list-style-type: none"> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Treatment needs identification</li> <li>• Procedures and tasks relating to Oral care</li> <li>• relatives priority importance and support</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> <li>• voice dental</li> </ul>	
<p><b>First author and year:</b> Vanobbergen 2005</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Belgium</p>	<p><b>What was/were the research questions:</b> To investigate factors affecting oral hygiene practices and services in long-term care facilities</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaires</li> <li>• <b>By whom:</b> Investigators</li> <li>• <b>What setting(s):</b> Nursing homes</li> <li>• <b>When:</b> 2005?</li> </ul>	<p><b>Setting</b> Nursing homes, Ghent, Flanders Belgium</p> <p><b>Participants:</b> 16 Nursing homes, 225 health care workers</p> <p><b>What population were the sample recruited from:</b> Nursing homes in Ghent, Flanders Belgium</p> <p><b>How were they recruited:</b> Stratified random sampling using 9 different strata</p> <p><b>exclusion criteria:</b> Staff working on night shift</p> <p><b>inclusion criteria:</b> nurses and home care aides working at selected institutions</p>	<p><b>Brief description of method and process of analysis:</b> A 43-item pre-tested questionnaire was distributed to nurses and care aides. The first 15-items included questions regarding procedures used in the support of residents' oral hygiene. The second part assessed the organisational climate and the awareness and knowledge of personnel. Bivariate analysis of data was undertaken using Pearson or Spearman's rho correlation analyses for continuous variables. Multiple linear regression analyses was also undertaken.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> Recall bias</p> <p><b>Limitations (review team):</b> Self-reported questionnaires</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>

<p><b>First author and year:</b> Vergona 2005</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> -</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> USA</p>	<p><b>What was/were the research questions:</b> preliminary assessment of the oral care of adults with Alzheimer's disease living in nursing homes and barriers to oral care.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Survey questionnaire</li> <li>• <b>By whom:</b> Mailed surveys</li> <li>• <b>What setting(s):</b> Nursing homes</li> <li>• <b>When:</b></li> </ul>	<p><b>Setting</b> Nursing homes, South-western Pennsylvania USA</p> <p><b>Participants:</b> Directors of Nursing (DON) at 23 nursing homes</p> <p><b>What population were the sample recruited from:</b> nursing homes with special units for residents with Alzheimer's disease</p> <p><b>How were they recruited:</b> Facilities were identified from a list of 23 nursing homes with special units for Alzheimer patients, provided by the Greater Pittsburgh Alzheimer's Association. All facilities were contacted.</p> <p><b>exclusion criteria:</b> none</p> <p><b>inclusion criteria:</b> Facilities with special units for residents with Alzheimer's disease</p>	<p><b>Brief description of method and process of analysis:</b> A 12-item questionnaire was mailed to nursing homes and they were completed by DONs. Questions were asked regarding oral health indicators recorded on admission, staff category responsible for initial oral examination, oral hygiene and dental treatment practices, barriers to oral health, payment for dental service by residents, and opinions on ethics. Data analysis involved use of frequency distribution, means, median, and chi-square test.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Health Conditions Specified</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Health Dementia or Memory</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> small sample size</p> <p><b>Limitations (review team):</b> Unvalidated questionnaire, no precision estimates</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Further studies should verify reported practices by reviewing medical records and carry out on-site evaluation of the oral health care at these facilities</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Wårdh 2000</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> examination of nursing homes staff attitude to oral health care of residents.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> Grounded theory</p>	<p><b>Setting</b> Nursing homes, Sweden</p> <p><b>Participants:</b> 8 nursing assistants, 14 home-care aides, 90% female, mode age 40years</p> <p><b>What population were the sample recruited from:</b> Nursing homes</p>	<p><b>Brief description of method and process of analysis:</b> In-depth interviews were conducted with 22 participants at their place of work. Interviews took between 30 and 60 minutes and were tape-recorded and transcribed verbatim by a secretary. Interview focused on participant's own description of oral health care assistance and their perceptions in the situation described. Questions were raised spontaneously by participants or by the interviewer. Interviews were analysed by 2 of the authors. 3 coding processes were used: open coding, axial coding and selective coding.</p>	<p><b>Limitations (author):</b> not stated</p> <p><b>Limitations (review team):</b> no clear information about how nursing homes were selected</p> <p><b>Evidence gaps and/or recommendations for future research:</b></p>

	<p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> In-depth interview</li> <li>• <b>By whom:</b> first author and 2 registered nurses</li> <li>• <b>What setting(s):</b> centres for home care, nursing homes, apartment homes for the demented elderly</li> <li>• <b>When:</b> 1999?</li> </ul>	<p><b>How were they recruited:</b> Respondents were asked to participate voluntarily by the directors of each institution.</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> nursing home staff</p>	<p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• cognitive</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p>not stated</p> <p><b>Funding sources:</b> Grants from the Health and Disease Department in Vastmanland County, Sweden.</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Wårdh 2002a, 2002b, 2003</p> <p><b>Study design:</b> Wårdh 2002a,b: CBA Wårdh 2003: QS</p> <p><b>Quality score:</b> Wårdh 2002a,b: + Wårdh 2003: +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> Effect of oral health care education and oral care aides' experience of this.</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> Grounded theory</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaires, DCBS and MPS indices, Focus groups, Interviews</li> <li>• <b>By whom:</b> Interviews/focus groups: First author MPS index: dental hygienist</li> <li>• <b>What setting(s):</b> Nursing homes</li> <li>• <b>When:</b></li> </ul>	<p><b>Setting</b> Nursing homes, Sweden</p> <p><b>Participants:</b> 2 nursing homes 4 oral care aides Intervention: 31 Nursing staff, mean age 38.5%, 96% female 28 residents, mean age 79.9years, 63% female Control:32 nursing staff, mean age 39.3, 100% female 38 residents, mean age 79.7years, 61% female</p> <p><b>What population were the sample recruited from:</b> Nursing homes</p> <p><b>How were they recruited:</b> Participants with permanent employment and on daytime schedules were selected. Ward</p>	<p><b>Brief description of method and process of analysis:</b> Baseline data was collected using Dental Coping Beliefs Scale (DCBS) index and 2 open-ended questions for staff and, Mucosal-plaque score (MPS) and semi-structured interview for residents. Oral health care education delivered by a dental hygienist was offered to all nursing staff in all units. This consisted of 2 hours of theoretical and 1 hour of practical education. Oral care aides in the intervention group attended a dental clinic for observation and auscultation training 1day/week for 4 weeks. They were subsequently responsible for oral health care in their wards. After 4 months, 3 90-min focus group discussions were held, tape-recorded and written verbatim by a secretary. The interviews were open. 6 months after baseline assessment, data was collected from nursing staff using the DCBS and 2 open-ended questions. At 18 months follow-up, MPS and semi-structured interview were conducted. Qualitative data was analysed using content analysis. Median differences and confidence intervals were presented for quantitative data. For the 18 months follow-up data student's t-test or fisher's exact test was used.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> </ul>	<p><b>Limitations (author):</b> Results bias due to lack of advocates at follow-up for some residents, small study material, high drop-out rate, confounders present</p> <p><b>Limitations (review team):</b> selection bias because ward directors selected oral care aides</p> <p><b>Evidence gaps and/or recommendations for future research:</b> further studies involving the use of the modified DCBS to ensure its reliability</p> <p><b>Funding sources:</b> Swedish Dental Association and the Department of Health and Disease in the county</p>

	1998?	director selected oral care aides. Voluntary participation by residents <b>exclusion criteria:</b> Residents with dementia with no advocates. <b>inclusion criteria:</b> Staff with permanent employment, daytime schedules.	<ul style="list-style-type: none"> <li>• dental service provision factor</li> <li>• dental team</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Procedure introduction of oral care aide or champion</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice Author</li> <li>• voice care home staff</li> <li>• voice Patient or care home resident</li> </ul>	of Vastmanland <b>Conflicts of interest:</b> not stated <b>Applicable to UK?</b> yes
<b>First author and year:</b> Wårdh 2012 <b>Study design:</b> CSS <b>Quality score:</b> + <b>External validity (surveys only)</b> + <b>Country</b> Sweden	<b>What was/were the research questions:</b> To explore the attitudes to and knowledge of oral health care among nursing staff after the adoption of a new dental reform law, which stated that these patient groups should have access to: an oral health care assessment in their residence, free of charge, basic dental care at subsidised rates and nursing home personnel who are trained in oral health care. <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a <b>How were the data collected:</b> • <b>What method(s):</b>	<b>Setting</b> Nursing home, county of Jonkoping and the city of Goteborg, Sweden  <b>Participants:</b> 12 nursing homes. 454 Nursing home personnel <b>What population were the sample recruited from:</b> Nursing homes who had access to a training program included in the Swedish dental reform. <b>How were they recruited:</b> Nursing homes were selected as representing different geographical areas, community sizes and types of facility.	<b>Brief description of method and process of analysis:</b> A 16-item questionnaire was distributed to staff. This included questions regarding demographics, attitudes to and knowledge of oral health care, and one open-ended question. Quantitative data were presented as frequencies, while qualitative data were content analysed. <b>Key themes relevant to this review:</b> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Resident behaviour</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<b>Limitations (author):</b> possibility of selection bias, drop-out rate <b>Limitations (review team):</b> no precision estimates for quantitative data, no consideration of confounders <b>Evidence gaps and/or recommendations for future research:</b> not stated <b>Funding sources:</b> Jonkoping County Council <b>Conflicts of interest:</b> not stated <b>Applicable to UK?</b> yes

	<p>questionnaire</p> <ul style="list-style-type: none"> <li>• <b>By whom:</b> Nursing home managers</li> <li>• <b>What setting(s):</b> Nursing homes</li> <li>• <b>When:</b> 2010?</li> </ul>	<p>Voluntary participation by staff.</p> <p><b>exclusion criteria:</b> nursing homes without access to oral health training program, staff on night shift</p> <p><b>inclusion criteria:</b> Staff on a daytime schedule</p>		
<p><b>First author and year:</b> Wårdh 2014</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Sweden</p>	<p><b>What was/were the research questions:</b> Effects of oral care aides at a nursing home and staff experience of oral health care</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> content analysis</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Interviews</li> <li>• <b>By whom:</b> Author?</li> <li>• <b>What setting(s):</b> Nursing homes, Local research department</li> <li>• <b>When:</b> 2013?</li> </ul>	<p><b>Setting</b> Nursing home, Sweden</p> <p><b>Participants:</b> 42 residents: mean age 82.86 years, 64% female 3 oral care aides 2 dental hygienists</p> <p><b>What population were the sample recruited from:</b> Nursing home in Sweden</p> <p><b>How were they recruited:</b> Voluntary participation by residents Staff manager appointed the oral care aides Dental hygienists were already affiliated with the home</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> residents and staff of selected nursing home</p>	<p><b>Brief description of method and process of analysis:</b> Oral care aides observed dental hygienists and dentists at a dental clinic for 2 days, and were given a written outline of their new duties after this. Duties included informing and reporting to the hygienist about residents' oral health issues. Microbial assay of residents was performed before and after the introduction of the care aides. 90 minutes interviews were performed with oral care aides and dental hygienists. The interviews were tape recorded and transcribed by a secretary. Interviews were focused on respondent's perceptions about oral health care at the facility and the introduction of the oral care aides. Fisher's exact test was used in the analysis of the microbial data. Qualitative data was analysed using content analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Dental Person Attitude or emotion</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• Procedure introduction of oral care aide or champion</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> <li>• voice dental</li> </ul>	<p><b>Limitations (author):</b> use of one nursing home, high dropout rate</p> <p><b>Limitations (review team):</b> use of single site, no clear justification for sampling, data collection and data analysis technique.</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Results and experiences from this should be used in similar studies</p> <p><b>Funding sources:</b> Swedish Patent Revenue Fund for Research in Preventive Odontology at The Karolinska Institute and The Wilhelm and Martina Lundgren Foundation in Gothenburg</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>

<p><b>First author and year:</b> Webb 2013</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> -</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Australia</p>	<p><b>What was/were the research questions:</b> Directors of Nursing (DONs) perceptions of oral care needs and difficulties in maintenance of residents' oral health</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire</li> <li>• <b>By whom:</b> mailed questionnaire</li> <li>• <b>What setting(s):</b> Aged care facilities</li> <li>• <b>When:</b> 2011</li> </ul>	<p><b>Setting</b> Aged care facilities, New South Wales (NSW), Australia</p> <p><b>Participants:</b> 255 Directors of Nursing</p> <p><b>What population were the sample recruited from:</b> Aged care facilities</p> <p><b>How were they recruited:</b> All DONs in New South Wales were contacted</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> DONs in aged care facilities</p>	<p><b>Brief description of method and process of analysis:</b> A 23-item questionnaires were mailed to all DONs in NSW. It comprised 4 headings: facility characteristics, facility dental care, residents' oral health status and DON/staff opinions relating to dental care. Data were presented as percentages.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• cognitive</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• health problems</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient cost related factors</li> <li>• Patient Financial and Resources</li> <li>• Patient health or mobility</li> <li>• Patient mobility</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• practice related Resources and financial factor</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Providing care outside surgery</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> Questionnaire to DONs did not contain any questions relating to dental care of natural teeth,</p> <p><b>Limitations (review team):</b> analysis not sufficient, questionnaire not validated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> Australian Prosthodontic Society (NSW Branch)</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Webb 2013b</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> -</p>	<p><b>What was/were the research questions:</b> Investigation of carers' perception of the provision of dental care in aged care facilities</p>	<p><b>Setting</b> Aged care facility, New South Wales (NSW), Australia</p> <p><b>Participants:</b> 211 carers, 91.9% female,</p>	<p><b>Brief description of method and process of analysis:</b> A 23-item questionnaire was mailed to DONs to be filled by carers. It comprised of four sections: carer demographics, oral care in the ACF, resident's oral care and factors that influence oral care. Questionnaires were validated. Data was presented as percentages.</p> <p><b>Key themes relevant to this review:</b></p>	<p><b>Limitations (author):</b> self-report, carers could not be contacted directly</p> <p><b>Limitations (review team):</b> Possibly non-representative sample of</p>



<p><b>External validity (surveys only)</b> - <b>Country</b> Australia</p>	<p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a <b>How were the data collected:</b> • <b>What method(s):</b> questionnaire • <b>By whom:</b> mailed • <b>What setting(s):</b> Aged care facility • <b>When:</b> 2013</p>	<p>mode age 40-50 years <b>What population were the sample recruited from:</b> Aged care facilities <b>How were they recruited:</b> Directors of Nursing (DONs) selected a carer who could read and write in their facility <b>exclusion criteria:</b> Carers who could not read and write <b>inclusion criteria:</b> carers who could read and write</p>	<ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• cognitive</li> <li>• Dental practice or dentist factor</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient behaviour</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p>carers, limited analysis and no consideration of confounders/differential views. Selection bias and low response rate <b>Evidence gaps and/or recommendations for future research:</b> further research to include residents' perception of dental care <b>Funding sources:</b> Australian Dental Research Foundation Inc. and the Australian Prosthodontic Society NSW <b>Conflicts of interest:</b> not stated <b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> White 2009 <b>Study design:</b> CSS <b>Quality score:</b> ++ <b>External validity (surveys only)</b> + <b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> Description of the reported oral health care and support provided in care homes in Scotland <b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> n/a <b>How were the data collected:</b> • <b>What method(s):</b> questionnaires • <b>By whom:</b> mailed • <b>What setting(s):</b></p>	<p><b>Setting</b> Care homes, Scotland <b>Participants:</b> 234 managers of care homes <b>What population were the sample recruited from:</b> care homes in registered as adult services in Scotland <b>How were they recruited:</b> stratified random sample using postcodes and random numbers table generated by Minitab. <b>exclusion criteria:</b> Undelivered questionnaire,</p>	<p><b>Brief description of method and process of analysis:</b> A new questionnaire was developed and external and internal content validity was undertaken. Majority of the questions were of a closed format, the final question was open. Data analysis was undertaken using SPSS, analysis was majorly descriptive with cross tabulations and chi-square tests undertaken when appropriate. The open question was analysed qualitatively using themes and codes. <b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Access or availability of services</li> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• dental treatment in practice access</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> </ul>	<p><b>Limitations (author):</b> reporting bias, self-reported data <b>Limitations (review team):</b> limited data analysis <b>Evidence gaps and/or recommendations for future research:</b> further research in this field to validate and clarify findings from this study. More qualitative research with residents, care staff and care home managers <b>Funding sources:</b></p>



	<p>care homes</p> <p>● <b>When:</b> April 2007</p>	<p>care homes that did not provide care to older people</p> <p><b>inclusion criteria:</b> care homes registered as Adult Services, sub-type 'older people' and 'dementia'.</p>	<ul style="list-style-type: none"> <li>• Procedure Treatment needs identification</li> <li>• Procedures and tasks relating to Oral care</li> <li>• voice care home staff</li> </ul>	<p>not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Willumsen 2012</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> Norway</p>	<p><b>What was/were the research questions:</b> Investigate acceptability of nursing home patients' oral hygiene and nurses' assessments of barriers to improvement</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Clinical examination of residents and their dental records, Questionnaire</li> <li>• <b>By whom:</b> dental hygienist performed residents' oral hygiene screening Head nurse distributed the questionnaire</li> <li>• <b>What setting(s):</b> Nursing homes</li> <li>• <b>When:</b> 2011</li> </ul>	<p><b>Setting</b> Nursing homes, Ostfold Norway</p> <p><b>Participants:</b> 11 nursing homes 353 residents, mean age 84.5 years, 73.9% female 494 nurses, 47.3% in age group 30-50 years, 81% female</p> <p><b>What population were the sample recruited from:</b> nursing homes in Ostfold</p> <p><b>How were they recruited:</b> using the inclusion criteria (see below). All nurses working regularly in selected homes were invited to participate</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> one nursing home in each of the 11 community dental hygiene districts and, the first nursing home to be visited by the dental hygienist in March 2010</p>	<p><b>Brief description of method and process of analysis:</b> Dental hygienist performed routine screening of oral hygiene on residents. Residents were asked for consent to use information from their dental records. Questionnaires were given to head nurse to distribute to nurses. Questions were asked regarding demographics, nurses' evaluation of patients' resistance to tooth cleaning, attitudes to and knowledge of oral health care. Data analysis was undertaken using PASW (formerly SPSS Statistical Package for the Social Sciences). Results were presented as percentages and odds ratio, use of chi-square test, Mann-Whitney test and regression analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient asking for help with oral care or treatment</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient health or mobility</li> <li>• Patient no perceived need for treatment</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resident pre-existing oral health</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> not stated</p> <p><b>Limitations (review team):</b> moderate response rate for residents</p> <p><b>Evidence gaps and/or recommendations for future research:</b> further research should focus on procedures to improve oral hygiene in resistant patients</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>

<p><b>First author and year:</b> Wolden 2006</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> +</p> <p><b>Country</b> Norway</p>	<p><b>What was/were the research questions:</b> Evaluation of caregivers feeling about the use of electric compared to manual toothbrushes in long-term care residents</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> questionnaire</li> <li>• <b>By whom:</b> Head nurse of each ward</li> <li>• <b>What setting(s):</b> Nursing home</li> <li>• <b>When: 2005?</b></li> </ul>	<p><b>Setting</b> Nursing home, Norway</p> <p><b>Participants:</b> 1 nursing home 6 wards 119 caregivers</p> <p><b>What population were the sample recruited from:</b> Largest nursing home in Norway</p> <p><b>How were they recruited:</b> voluntary participation of staff and residents</p> <p><b>exclusion criteria:</b> short term rehabilitation ward, caregivers who did not use electric or manual toothbrushes on residents</p> <p><b>inclusion criteria:</b> caregivers and residents in selected home</p>	<p><b>Brief description of method and process of analysis:</b> Caregivers underwent a full-day oral care training and this included demonstration of electric tooth brushing procedures. 15 months after the introduction of electric toothbrushes in a nursing home, questionnaires were distributed to the nursing staff. Questionnaire consisted of 5 multiple choice and 2 open-ended questions. Question were asked regarding extent of use, ease of use, time consumed and the general opinion of the residents and staff. Descriptive analysis of data was undertaken using SPSS. Cross-tabulation and Sign test were used to compare brushing times.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• cognitive</li> <li>• Patient Attitude or emotion</li> <li>• Patient attitudes or perspectives</li> <li>• Patient behaviour</li> <li>• Patient health or mobility</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> self-report, heterogeneous character of the study group.</p> <p><b>Limitations (review team):</b> single institution, did not explore effect of carers characteristic</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Research on efficacy of plaque removal when using electric toothbrushes in a caregiving situation.</p> <p><b>Funding sources:</b> The Norwegian Foundation of Health and Rehabilitation.</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Yoon 2011</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> ++</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Canada</p>	<p><b>What was/were the research questions:</b> Effect of an appreciative inquiry to promote nursing oral care service</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> content analysis</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Modules, observation and</li> </ul>	<p><b>Setting</b> Hospital, Toronto Canada</p> <p><b>Participants:</b> 9 nursing staff</p> <p><b>What population were the sample recruited from:</b> Academic rehabilitation hospital in the Greater Metropolitan Toronto Area.</p> <p><b>How were they recruited:</b> convenience sample of volunteer members of</p>	<p><b>Brief description of method and process of analysis:</b> Participants attended 2 face-to-face modules over 2 consecutive days. Module 1 was a 3-hour session where they reflected on best oral care practice experiences before and after a presentation. Module 2 involved a 7-hour session in which best practice examples were further explored. 2 months after the modules a questionnaire was administered. Data was collected using worksheets and supplementary notes. Data was transcribed and analysed using content analysis.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Non dental People as barrier or facilitator</li> <li>• priority and importance of oral care and access amongst</li> </ul>	<p><b>Limitations (author):</b> follow-up time was limited, low response rate</p> <p><b>Limitations (review team):</b> small sample size, use of only one site</p> <p><b>Evidence gaps and/or recommendations for future research:</b> not stated</p> <p><b>Funding sources:</b> Continuing Education Research and</p>

	<p>questionnaire</p> <ul style="list-style-type: none"> <li>• <b>By whom:</b> Research assistant</li> <li>• <b>What setting(s):</b> Rehabilitation hospital</li> <li>• <b>When:</b> 2010?</li> </ul>	<p>nursing staff</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> staff in selected hospital</p>	<p>relatives</p> <ul style="list-style-type: none"> <li>• Procedure introduction of oral care aide or champion</li> <li>• Procedure oral care</li> <li>• Procedures and tasks relating to Oral care</li> <li>• relatives priority importance and support</li> <li>• voice care home staff</li> </ul>	<p>Development Fund, Faculty of Continuing Medical Education, Department of Medicine, University of Toronto, Canada. Canadian Institutes of Health Research New Investigator Award (grant 69521).</p> <p><b>Conflicts of interest:</b> none</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Yoon 2012</p> <p><b>Study design:</b> QS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b></p> <p><b>Country</b> Canada</p>	<p><b>What was/were the research questions:</b> To explore the perspectives of different professional groups with regards to oral care and how their perspectives impacts activities and processes involved in oral care delivery</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b> thematic analysis</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> focus group: face-to-face session with nurses, and profession specific telephone focus groups with the others.</li> <li>• <b>By whom:</b> Researcher</li> </ul>	<p><b>Setting</b> Toronto, Canada</p> <p><b>Participants:</b> 6 nurses, 6 Speech and Language Therapists (SLP), 4 Dental Hygienists (DH), 6 Directors of Nursing (DON), 6 Personal Support Worker (PSW)</p> <p><b>What population were the sample recruited from:</b> Nurses: hospital, SLP: provincial swallowing interest group, DHs: contact list of DHs working in long-term care settings, DONs: members of registered nurses association of Ontario</p> <p><b>How were they recruited:</b> Nurses: distribution of information sheets at selected home.</p>	<p><b>Brief description of method and process of analysis:</b> With the exception of Nurses focus group, which was held face-to-face, all focus groups were held via teleconference. Discussions were digitally voice recorded. The researcher using a non-directive interview technique with open-ended questions facilitated focus groups. Recordings were transcribed, anonymised and entered into QSR NVivo8. Data analysis involved the use of thematic codes.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• dental domiciliary care access</li> <li>• dental personnel factor</li> <li>• Dental practice or dentist factor</li> <li>• dental service provision factor</li> <li>• knowledge</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure dental care access</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• Providing care outside surgery</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> </ul>	<p><b>Limitations (author):</b> use of phone interviews for some participants</p> <p><b>Limitations (review team):</b> single method, no discussion of discrepant results.</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Future studies should explore the perspectives of patients and families and the potential roles that they can play in the promotion and delivery of oral care</p> <p><b>Funding sources:</b> Canadian Institutes of Health Research, Canadian Institutes of Health Research New Investigator Award (Grant #69521)</p>

	<ul style="list-style-type: none"> <li>• <b>What setting(s):</b> Participants' workplace</li> <li>• <b>When:</b> 2010?</li> </ul>	<p>SLP, DONs and DHs: Email advertisement PSW: selected by the DONs</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> members of selected professional groups</p>	<ul style="list-style-type: none"> <li>• voice dental</li> </ul>	<p><b>Conflicts of interest:</b> no conflicts of interest</p> <p><b>Applicable to UK?</b> yes</p>
<p><b>First author and year:</b> Young 2008</p> <p><b>Study design:</b> CSS</p> <p><b>Quality score:</b> +</p> <p><b>External validity (surveys only)</b> ++</p> <p><b>Country</b> UK</p>	<p><b>What was/were the research questions:</b> evaluating care home staff knowledge of oral care provision for residents in comparison to NHS Quality Improvement Scotland (NHSQIS) guidelines</p> <p><b>What theoretical approach (e.g. grounded theory, IPA) does the study take (if specified):</b>n/a</p> <p><b>How were the data collected:</b></p> <ul style="list-style-type: none"> <li>• <b>What method(s):</b> Questionnaire and checklist</li> <li>• <b>By whom:</b> Structured interviews using questionnaires: Researchers</li> <li>• <b>Training:</b> Oral health educator (OHE)</li> <li>• <b>What setting(s):</b> Care home</li> <li>• <b>When:</b> Between 2005 and 2007</li> </ul>	<p><b>Setting</b> Care homes, Greater Glasgow &amp; Clyde, Scotland</p> <p><b>Participants:</b> 33 homes, 109 care staff</p> <p><b>What population were the sample recruited from:</b> Care home staff in Greater Glasgow &amp; Clyde region</p> <p><b>How were they recruited:</b> Random selection by an internet search engine. A convenience sample was also selected for subgroup analysis</p> <p><b>exclusion criteria:</b> not stated</p> <p><b>inclusion criteria:</b> Care homes within Greater Glasgow &amp; Clyde region</p>	<p><b>Brief description of method and process of analysis:</b> Interviews were scheduled over the phone. Researchers received calibrated training on the interview techniques prior to commencement. The first 2 components of the interview schedule were designed using Likert scale, the third component adopted an open-ended approach. A knowledge checklist was also constructed. A training session was delivered to a sub-group of participants and data collected after one month. Data analysis was undertaken using Excel and SPSS. Results were presented as percentages and means.</p> <p><b>Key themes relevant to this review:</b></p> <ul style="list-style-type: none"> <li>• Care home Factors</li> <li>• Patient behaviour</li> <li>• Patient or care home resident factors</li> <li>• Procedure oral care</li> <li>• Procedure Oral hygiene education or training</li> <li>• Procedures and tasks relating to Oral care</li> <li>• resisting or challenging behaviour</li> <li>• voice care home staff</li> <li>• voice Other or multiple people</li> </ul>	<p><b>Limitations (author):</b> small sample size</p> <p><b>Limitations (review team):</b> questions not validated</p> <p><b>Evidence gaps and/or recommendations for future research:</b> Weak evidence regarding the long-term effect of OHE training of patients or staff</p> <p>Further research to determine the long-term efficacy of oral health education based upon the best practice statement as a public health approach.</p> <p><b>Funding sources:</b> not stated</p> <p><b>Conflicts of interest:</b> not stated</p> <p><b>Applicable to UK?</b> yes</p>

## Appendix B – Quality Summary: Qualitative Studies\*

\* Or Mixed methods studies incorporating qualitative research component

Author/ Year	Study design	Approach		Design	Data	Trustworthiness			Analysis			Summary			
		1.1	1.2			2.1	3.1	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2
Belsi 2013	MM/QS	++	++	++	+	-	+	+	nr	-	-	+	++	++	+
Dharamsi 2009	QS	++	++	++	+	+	++	++	++	+	-	++	++	++	+
Finkleman 2013	QS	++	++	+	+	+	++	+	++	++	-	+	++	-	+
Lindqvist 2013	QS	++	++	+	++	+	++	+	++	++	+	++	++	++	+
MacEntee 1999	QS	++	++	++	++	+	+	-	++	++	++	++	++	-	+
Maramaldi 2014	QS	++	++	+	-	-	+	-	-	nr	-	-	+	-	-
McKelvey 2003	QS	++	++	+	++	+	++	-	+	+	+	++	++	++	+
Paley 2009	QS	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Pratelli 1998	QS	++	++	++	++	++	++	++	++	++	+	++	++	-	++
Sonde 2011	QS	++	++	+	++	++	++	++	++	+	+	++	++	++	+
Tham 2013	QS	++	++	++	++	++	++	++	++	+	++	++	++	++	++
Wårdh 2000	QS	++	++	+	++	+	++	+	++	++	++	++	++	++	++
Wårdh 2014	QS	++	++	+	++	+	++	++	++	+	++	++	++	++	+
Yoon 2011	QS	++	++	++	++	+	++	++	++	+	++	++	++	++	++
Yoon 2012	QS	++	++	++	++	++	++	+	++	++	+	++	++	++	+

**Key to headings (brief summary from Appendix H, NICE 2009):** 1.1 qualitative approach appropriate; 1.2 study clear in what it seeks to do; 2.1 defensible/rigorous research design/methodology; 3.1 data collection well carried out; 4.1 role of the researcher clearly described; 4.2 context clearly described; 4.3 reliable methods; 5.1 data analysis sufficiently rigorous; 5.2 'rich' data; 5.3 reliable analysis reliable; 6.1 Convincing findings; 6.2 Relevant findings and conclusions; 6.3 Ethics; 6.4 Overall assessment. ++ Minimal bias; +Bias unclear; - Risk of bias; nr Not reported; na Not applicable

## Appendix C – Quality Summary: Cross Sectional Surveys

**Cross sectional surveys:** Given the inherent problems with bias and confounding associated with design of cross sectional surveys, these studies were quality rated (for internal validity) only as + or –.

Author/ Year	Study design	Population			Method of selection of exposure/comparison group						Outcomes					Analyses				Summary	
		1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	5.1	5.2
Antoun 2008	CSS	++	++	++	na	na	na	na	-	++	+	++	++	na	na	na	na	++	++	+	++
Arpin 2008	CSS	++	++	++	na	na	na	na	++	++	++	++	++	na	na	na	na	++	na	++	+
Brister 2008	CSS	++	++	++	na	na	na	na	na	++	++	++	++	na	na	na	na	++	++	++	++
Chalmers 1996	CSS	++	++	++	na	na	na	na	++	++	+	+	++	na	na	na	na	++	++	+	++
Chalmers 2001	CSS	++	++	++	na	na	na	na	++	++	+	++	++	na	na	na	na	++	++	+	++
Chowdhry 2011	CSS	++	++	++	na	na	na	na	++	++	+	+	++	na	na	na	na	++	++	+	+
Chung 2000	CSS	++	++	+	na	na	na	na	-	++	+	++	++	na	na	na	na	++	++	+	+
Cornejo-Ovalle 2013	CSS	+	++	+	na	na	na	na	-	++	+	++	++	na	na	na	na	++	++	+	+
Dickinson 2012	CSS	++	++	+	na	na	na	na	++	++	++	+	++	na	na	na	na	++	++	++	+
Dounis 2012	CSS	++	+	++	na	na	na	na	++	++	+	++	++	na	na	na	na	++	++	+	+
Forsell 2010	CSS	++	++	++	na	na	na	na	+	++	+	++	++	na	na	na	na	++	++	+	+
Frenkel 1999	CSS	++	++	++	na	na	na	na	-	++	+	+	++	na	na	na	na	-	na	-	++
Gately 2011	CSS	++	++	-	na	na	na	-	+	++	+	na	++	na	na	na	na	+	-	-	-
Hally 2003	CSS	++	++	++	na	na	na	na	++	++	+	++	++	na	na	na	na	+	-	+	++

Hopcraft 2008	CSS	++	++	++	na	na	na	na	+	++	+	+	++	na	na	na	na	++	++	+	+	
Jablonski 2009	CSS	++	+	+	na	na	na	+	++	++	++	++	++	na	na	na	na	++	++	+	+	
Jobman 2012	CSS	++	++	+	na	na	na	++	++	++	++	-	++	na	na	na	na	++	++	+	+	
Johnson 1999	CSS	++	++	++	na	na	na	na	++	++	++	+	++	na	na	na	na	+	+	+	+	
Longhurst 2002	CSS	++	++	+	na	na	na	na	-	++	+	+	++	na	na	na	na	+	-	-	-	
Mahalaha 2009	CSS	++	++	+	na	na	na	na	+	++	+	+	++	na	na	na	na	++	++	+	+	
Matear 2006	CSS	++	+	-	na	na	na	na	-	++	+	++	++	na	na	na	na	+	-	-	-	
Monaghan 2010	CSS	++	++	++	na	na	na	na	+	++	+	++	++	na	na	na	na	+	-	+	+	
Nitschke 2005	CSS	++	++	++	na	na	na	na	++	++	+	++	++	na	na	na	na	++	++	+	++	
Nitschke 2010	CSS	++	++	++	na	na	na	na	+	++	+	++	++	na	na	na	na	++	+	+	++	
Nunez 2011	CSS	++	++	+	na	na	na	+	+	++	+	+	++	na	na	na	na	++	++	+	+	
Paulsson 2003	CSS	++	++	+	na	na	na	na	++	++	+	++	++	++	++	na	++	++	++	++	+	++
Pickard 2005	CSS	++	++	+	na	na	na	na	++	++	+	+	++	na	na	na	na	++	++	+	+	
Pyle 1999	CSS	++	++	+	na	na	na	++	++	++	++	++	++	na	na	na	na	++	++	++	+	
Pyle 2005	CSS	++	++	+	na	na	na	na	+	++	+	++	++	na	na	na	na	++	++	+	+	
Rabbo 2010	CSS	++	++	+	na	na	na	na	++	++	+	++	++	na	na	na	na	+	-	+	+	
Reznick 2002	CSS	+	+	+	na	na	na	na	-	++	+	++	++	na	na	na	na	+	-	+	+	



Schembri 2005	CSS	++	++	++	na	na	na	na	++	++	+	++	++	na	na	na	na	+	-	+	++
Simons 1999	CSS	++	++	+	na	na	na	+	-	++	+	++	++	na	na	na	na	++	++	+	+
Smith 2010	CSS	++	++	+	na	na	na	na	++	++	+	++	++	na	na	na	na	+	-	+	+
Thole 2010	CSS	++	++	+	na	na	na	+	++	++	++	++	++	na	na	na	na	++	++	++	+
Turner 2009	CSS	++	++	++	na	na	na	na	++	++	+	+	++	na	na	na	na	++	++	+	++
Vanobbergen 2005	CSS	++	++	++	na	na	na	++	++	++	++	++	++	na	na	na	na	++	++	++	++
Vergona 2005	CSS	++	++	++	na	na	na	na	-	++	+	++	++	na	na	na	na	++	-	-	++
Wårdh 2012	CSS	++	++	+	na	na	na	-	+	++	+	++	++	na	na	na	na	++	-	+	+
Webb 2013a	CSS	++	++	+	na	na	na	na	-	++	+	++	++	na	na	na	na	+	-	-	+
Webb 2013b	CSS	++	-	+	na	na	na	-	-	++	+	++	+	na	na	na	na	+	-	-	-
White 2009	CSS	++	++	++	na	na	na	na	++	++	++	++	++	na	na	na	na	+	-	++	+
Willumsen 2012	CSS	++	++	+	na	na	na	++	++	++	++	++	++	na	na	na	na	++	++	++	++
Wolden 2006	CSS	++	+	++	na	na	na	-	-	++	+	++	++	na	na	na	na	++	++	+	+
Young 2008	CSS	++	++	++	na	na	na	na	+	++	+	++	++	na	na	na	na	++	++	+	++

Eligible population representative of source ; 1.3 Selected population representative of eligible; 2.1 selection bias minimised; 2.2 explanatory variables based on sound theoretical basis; 2.3 contamination acceptably low; 2.4 confounding factors identified and controlled; 2.5 [XSS] Were rigorous processes used to develop the questions (e.g. were the questions piloted / validated?)2.6 setting applicable to the UK; 3.1 Reliable outcomes; 3.2 Complete outcomes; 3.3 Important outcomes assessed; 3.4 Relevant outcomes; 3.5 Similar follow up times; 3.6 Meaningful follow up; 4.1 Groups similar at baseline; 4.2 study sufficiently powered to detect an effect; 4.3 multiple explanatory variables considered in the analyses; 4.4 analytical methods appropriate; precision of association given or calculable; 5.1 Internally valid; 5.2 Externally valid. ++ Minimal bias; +Bias unclear; - Risk of bias; nr Not reported; na Not applicable

## Appendix D – Quality Summary: Intervention studies

Author and Year	Study design	Population			Method of allocation to intervention (or comparison)											Outcomes						Analyses						Summary	
		1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.10	2.11	3.1	3.2	3.3	3.4	3.5	3.6	4.1	4.2	4.3	4.4	4.5	4.6	5.1	5.2
Fjeld 2014	RCT	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	-	++	++	+	++	++	+	++	+
Wardh 2002a	CBA	++	++	+	-	++	-	na	++	++	++	+	-	++	++	+	+	++	++	++	++	+	-	-	++	++	++	+	+
Reed 2006	UBA	+	++	+	na	++	na	na	na	na	na	++	na	++	++	++	++	++	++	na	+	na	na	nr	+	+	+	+	++

**Key to headings (brief summary from Appendix F, NICE 2009):** 1.1 Source population described; 1.2 Eligible population representative of source ; 1.3 Selected population representative of eligible; 2.1 Population described; 2.2 Intervention/comparison described; 2.3 Allocation concealed; 2.4 Blinded; 2.5 Exposure adequate; 2.6 Contamination low; 2.7 Other interventions similar in groups; 2.8 All participants accounted for; 2.9 Setting reflects UK practice; 2.10 Intervention reflects UK practice; 3.1 Reliable outcomes; 3.2 Complete outcomes; 3.3 Important outcomes assessed; 3.4 Relevant outcomes; 3.5 Similar follow up times; 3.6 Meaningful follow up; 4.1 Groups similar at baseline; 4.2 ITT used; 4.3 Sufficient power; 4.4 Estimates of effect size given; 4.5 Appropriate analysis; 4.6 Precision; 5.1 Internally valid; 5.2 Externally valid; ++ Minimal bias; +Bias unclear; - Risk of bias; nr Not reported; na Not applicable

## Appendix E – Review Team

<b>Project Director</b>	Dr Alison Weightman
<b>Systematic Reviewers</b>	Weyinmi Agnes Demeyin Mala Mann Fiona Morgan Dr Alison Weightman
<b>Information Specialist</b>	Mala Mann
<b>Topic expertise</b>	Professor Ivor Chestnutt Dr Damian Farnell Dr Ilona Johnson Fiona Morgan
<b>Statistical analysis</b>	Dr Damian Farnell
<b>Presentation</b>	Dr Alison Weightman Professor Ivor Chestnutt Fiona Morgan Dr Ilona Johnson

## Appendix F – Search Strategy (Medline)

The search comprises two groups of terms with a mix of indexed terms and keywords. The first group of terms is designed to identify care home residents. This includes a failsafe component (lines 17 to 22) to ensure studies in adults with disabilities are identified. The second group relates to oral health. The strategy was designed to enhance specificity, but testing against a core set of 50 potentially relevant papers indicates that the strategy is well balanced for sensitivity (all papers included in Medline were identified by the search).

	<b>Searches</b>	<b>Results</b>
1	exp nursing homes/	32415
2	Residential Facilities/	4748
3	Homes for the Aged/	11296
4	Assisted Living Facilities/	943
5	Long-Term Care/	22022
6	nursing home*1.tw.	21267
7	care home*1.tw.	1771
8	((elderly or old age) adj2 home*1).tw.	1614
9	assisted living facilit*.tw.	452
10	((nursing or residential) adj (home*1 or facilit*)).tw.	24158
11	(home*1 for the aged or home*1 for the elderly or home*1 for older adult*).tw.	2247
12	residential aged care.tw.	362
13	("frail elderly" adj2 (facilit* or home or homes)).tw.	52
14	(residential adj (care or facilit* or setting*)).tw.	3107
15	or/1-14	69174
16	Disabled Persons/	32526
17	Vulnerable Populations/	6120
18	Intellectual Disability/	47834
19	Learning Disorders/	12832
20	Mentally Disabled Persons/	2344
21	((physical* or learning or mental* or intellectual*) adj (disorder* or disab* or impair*)).tw.	45798
22	or/16-21	130980
23	(residential or home*1 or facilit*).tw.	543808
24	22 and 23	8763
25	15 or 24	75868
26	Preventive dentistry/	3096

27	Oral Hygiene/	10553
28	Dental Care/	15591
29	Toothbrushing/	6206
30	Mouthwashes/	4447
31	Health Education, Dental/	5816
32	Oral health/	10546
33	Dental Care for Chronically Ill/	2708
34	Dental Care for Aged/	1734
35	Geriatric Dentistry/	982
36	Dental Care for Disabled/	3986
37	((access* or availab*) adj2 dentist*).tw.	185
38	((dental health or oral health) adj3 (care or promotion or training)).tw.	3590
39	((oral or dental or mouth or teeth or tooth or gum or periodontal) adj (care or hygiene or health)).tw.	35651
40	(mouthwash* or mouth-wash* or mouth-rins* or mouthrins* or oral rins* or oralrins* or toothpaste* or tooth paste* or dentifrice* or toothbrush* or tooth brush* or fissure sealant* or floss*).tw.	13228
41	exp Dentifrices/	5699
42	(fluorid* adj2 (varnish* or topical or milk)).tw.	1441
43	Fluorides, Topical/	3947
44	Mouth Diseases/pc	899
45	Periodontal diseases/pc	2561
46	Mouth neoplasms/pc	1145
47	Xerostomia/pc	358
48	(dental adj (crown* or implant* or bridge* or denture* or inlay*)).tw.	8345
49	or/26-48	87974
50	(oral disease* or oral neoplasm* or oral cancer* or dental disease* or mouth disease* or dental decay or mouth neoplasm* or mouth cancer* or gum disease* or DMF or caries or gingivitis or periodontal disease* or periodontitis or dental plaque or oral plaque or dry mouth or xerostomia).tw.	84386
51	((tooth or teeth) adj2 (decay* or loss)).tw.	4675
52	(prevent* or control* or reduc*).tw.	4582217
53	50 or 51	86866
54	52 and 53	32141
55	49 or 54	108782
56	25 and 55	1264
57	limit 56 to (english language and humans and yr="1995 - 2014")	742

## Appendix G – Included papers

1. Antoun JS, Adsett LA, Goldsmith SM, Thomson WM. The oral health of older people: general dental practitioners' beliefs and treatment experience. *Special Care in Dentistry* 2008 Jan;28(1):2-7.
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16. Frenkel HF. Behind the screens: care staff observations on delivery of oral health care in nursing homes. *Gerodontology* 1999 Dec;16(2):75-80.
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Ref Type: Journal (Full)

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65. Yoon MN, Steele CM. Health care professionals' perspectives on oral care for long-term care residents: nursing staff, speech-language pathologists and dental hygienists. *Gerodontology* 2012 Jun;29(2):e525-e535.
66. Yoon MN. Oral health for long-term care populations: From pneumonia pathogenesis to front-line oral care provision University of Toronto (Canada); 2011.
67. Young BC, Murray CA, Thomson J. Care home staff knowledge of oral care compared to best practice: a West of Scotland pilot study. *British Dental Journal* 2008 Oct 25;205(8):E15-1.

## Appendix H – Unpicked systematic reviews

Brady, M.C., Furlanetto, D., Hunter, R., Lewis, S.C., & Milne, V. 2006. Staff-led interventions for improving oral hygiene in patients following stroke. *Cochrane Database of Systematic Reviews* (4)

Cobban, S. 2012. Improving Oral Health for Elderly Residents of Long-Term Care Facilities. Ph.D. University of Alberta (Canada).

Coker, E., Ploeg, J., & Kaasalainen, S. 2014. The effect of programs to improve oral hygiene outcomes for older residents in long-term care: a systematic review. *Research in Gerontological Nursing*, 7, (2) 87-100

Lugt-Lustig, K., Vanobbergen, J., Putten, G.J., Visschere, L., Schols, J., & Baat, C. 2014. Effect of oral healthcare education on knowledge, attitude and skills of care home nurses: a systematic literature review. *Community Dentistry & Oral Epidemiology*, 42, (1) 88-96

Raghoonandan, P., Cobban, S., & Compton, S. 2011. A scoping review of the use of fluoride varnish in elderly people living in long term care facilities. *Canadian Journal of Dental Hygiene*, 45, (4) 217-222

Pearson A & Chalmers JM 2004. Systematic review. Oral hygiene care for adults with dementia in residential aged care facilities. *JBIC Reports* 2:65–113.

Sjogren, P., Nilsson, E., Forsell, M., Johansson, O., & Hoogstraate, J. 2008. A systematic review of the preventive effect of oral hygiene on pneumonia and respiratory tract infection in elderly people in hospitals and nursing homes: effect estimates and methodological quality of randomized controlled trials. [34 refs]. *Journal of the American Geriatrics Society*, 56, (11) 2124-2130

## Appendix J – Studies in Progress

<p>Freeman 2014  <a href="http://dentistry.dundee.ac.uk/addressing-oral-health-needs-older-residents-care-homes-using-bystander-intervention-model-tackle">http://dentistry.dundee.ac.uk/addressing-oral-health-needs-older-residents-care-homes-using-bystander-intervention-model-tackle</a></p>	<p>QS</p>	<p>UK</p>
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## Appendix K – Papers excluded at full text

ADA Division of Science 2003. The importance of oral health in patients receiving long-term care. <i>Journal of the American Dental Association</i> , 134, (1) 109	Product information
Anon 2006. Best practice: evidence based practice information sheets for health professionals. Oral hygiene care for adults with dementia in residential aged care facilities. <i>Geriatrics</i> , 24, (3) 23-28	News report
Anon 2010. Oral health of disadvantaged groups. <i>British Dental Journal</i> , 208, (4) 151	News report
Allukian, M.J. 2008. Who is helping seniors improve their oral health? What is our responsibility? <i>Journal of the Massachusetts Dental Society</i> , 57, (3) 68-69	Opinion/Commentary
Alty, C.T. & Olson, K. 1996. Serving kindness through in-service. <i>RDH</i> , 16, (11) 26-28	Opinion/Commentary
Arpin, S. 2009. Oral hygiene in elderly people in hospitals and nursing homes. <i>Evidence-Based Dentistry</i> , 10, (2) 46	Opinion/Commentary
Bailit, H. & D'Adamo, J. 2012. State case studies: improving access to dental care for the underserved. <i>Journal of Public Health Dentistry</i> , 72, (3) 221-234	Not specific to care homes
Baker, R. 2009. Deplorable care. <i>British Dental Journal</i> , 206, (10) 509	Letter
Banting, D.W., Greenhorn, P.A., & McMinn, J.G. 2003. Effectiveness of a topical antifungal regimen for the treatment of oral candidiasis in older, chronically ill, institutionalized, adults. <i>Journal (Canadian Dental Association)</i> , 61, (3) 199-200	Specific clinical intervention
Banting, D.W. & Hill, S.A. 2001. Microwave disinfection of dentures for the treatment of oral candidiasis. <i>Special care in dentistry</i> , 21, (1) 4-8	Microbial outcomes
Barnes, C.M. 2014. Dental hygiene intervention to prevent nosocomial pneumonias. <i>The Journal of Evidence based Dental Practice</i> , 14 Suppl, 103-114	Non-systematic review
Bartold, P.M. 2011. Nursing home care - we only have ourselves to blame. <i>Australian Dental Journal</i> , 56, (1) 1	Editorial
Beck, A.M., Gogsig Christensen, A., Stenbaek Hansen, B., et al. 2014. Study protocol: cost-effectiveness of multidisciplinary nutritional support for under-nutrition in older adults in nursing home and home-care: cluster randomized controlled trial. <i>Nutrition Journal</i> , 13, (1) 86	No oral health component to intervention
Borreani, E., Jones, K., Wright, D., Scambler, S., & Gallagher, J.E. 2010. Improving access to dental care for older people. <i>Dental Update</i> , 37, (5) 297-298	Non-systematic review

Brody, R., Touger-Decker, R., Radler, D., Parrott, J., Rachman, S., & Trostler, N. 2014. A Novel Approach to Oral Health Assessment Training for Dietitians in Long-Term Care Settings in Israel. <i>Topics in Clinical Nutrition</i> , 29, (1) 57-68	Non applicable country (Israel)
Brady, M.C., Furlanetto, D.L.C., Hunter, R.V., Lewis, S.C., & Milne, V. 2011. Oral health care for patients after stroke. <i>Stroke</i> , 42, (12) e636-e637	Paper based on previously identified Cochrane Review
Buchholtz, K.J. & King, R.S. 2012. Policy and proposals that will help improve access to oral care services for individuals with special health care needs. <i>North Carolina Medical Journal</i> , 73, (2) 124-127	Opinion/Commentary
Budtz-Jorgensen, E., Chung, J.P., & Mojon, P. 2000. Successful aging--the case for prosthetic therapy. <i>Journal of Public Health Dentistry</i> , 60, (4) 308-312	Non-systematic review
Budtz-Jorgensen, E., Chung, J.P., & Rapin, C.H. 2001. Nutrition and oral health. <i>Best Practice &amp; Research in Clinical Gastroenterology</i> , 15, (6) 885-896	Non-systematic review
Carmody, S.; Forster, S. 2003. <i>Nursing older people: a guide to practice in care homes</i> Oxford, Radcliffe	Textbook
Burtner AP, Smith RG, Tiefenbach S, Walker C. 1996. Administration of chlorhexidine to persons with mental retardation residing in an institution: Patient acceptance and staff compliance. <i>Special Care Dentistry</i> 16(2), 53-7	Clinical intervention
Carson, S.J. & Edwards, M. 2014. Barriers to providing dental care for older people. <i>Evidence-Based Dentistry</i> , 15, (1) 14-15	Commentary on systematic review (Bots-Vantspijker et al 2013)
Chalmers, J.M. 2000. Behavior management and communication strategies for dental professionals when caring for patients with dementia. <i>Special Care in Dentistry</i> , 20, (4) 147-154	Non-systematic review
Chalmers, J.M., Carter, K.D., & Spencer, A.J. 2004. Oral health of Adelaide nursing home residents: longitudinal study. <i>Australasian Journal on Ageing</i> , 23, (2) 63-70	Study design: epidemiology
Chalmers, J. & Pearson, A. 2005. Oral Hygiene Care for Residents with Dementia: A Literature Review. <i>Journal of Advanced Nursing</i> , 52, (4) 410-419	Paper based on previously identified Joanna Briggs Institute systematic review
Chavez, E.M., LaBarre, E., Fredekind, R., & Isakson, P. 2010. Comprehensive dental services for an underserved and medically compromised population provided through a community partnership and service learning. <i>Special Care in Dentistry</i> , 30, (3) 95-98	Report of a dental school programme
Christensen, L.B., Hede, B., & Nielsen, E. 2012. A cross-sectional study of oral health and oral health-related quality of life among frail elderly persons on admission to a special oral health care programme in Copenhagen City, Denmark. <i>Gerodontology</i> , 29, (2) e392-e400	Mixed population of community-dwelling and residential-care participants. Not possible to disaggregate data for



	residential care population
Clavero J, Baca P, Junco P, González MP. Effects of 0.2% chlorhexidine spray applied once or twice daily on plaque accumulation and gingival inflammation in a geriatric population. <i>Journal of Clinical Periodontology</i> 2003 Sep 1;30(9):773-7.	Clinical intervention
Coker, E., Ploeg, J., Kaasalainen, S., & Fisher, A. 2013. A concept analysis of oral hygiene care in dependent older adults. <i>Journal of Advanced Nursing</i> , 69, (10) 2360-2371	2104 systematic review by the same authors identified
Coleman, P. 2005. Opportunities for nursing-dental collaboration: Addressing oral health needs among the elderly. <i>Nursing Outlook</i> , 53, (1) 33-39	Non-systematic review
Coleman, P.R. 2004. Promoting oral health in elder care--challenges and opportunities. <i>Journal of Gerontological Nursing</i> , 30, (4) 3	Editorial
Connell, B.R., McConnell, E.S., & Francis, T.G. 2002. Tailoring the environment of oral health care to the needs and abilities of nursing home residents with dementia. <i>Alzheimer's Care Quarterly</i> , 3, (1) 19-25	Study design: case study
Connick, C.M. & Barsley, R.E. 1999. Dental neglect: definition and prevention in the Louisiana Developmental Centers for patients with MRDD. <i>Special Care in Dentistry</i> , 19, (3) 123-127	Study design: epidemiology
Crogan NL. Managing xerostomia in nursing homes: pilot testing of the Sorbet Increases Salivation intervention. <i>Journal of the American Medical Directors Association</i> 2011 Mar;12(3):212-6.	Special population. Drug induced xerostomia
de Mello, A.L.F. & Erdmann, A.L. 2007. Investigating oral healthcare in the elderly using Grounded Theory. <i>Revista Latino-Americana de Enfermagem</i> , 15, (5) 922-928	Non-systematic review
De Visschere, L.M. & Vanobbergen, J.N. 2006. Oral health care for frail elderly people: actual state and opinions of dentists towards a well-organised community approach. <i>Gerodontology</i> , 23, (3) 170-176	Not specific to care homes
DeBiase, C.B. & Austin, S.L. 2003. Oral health and older adults. [75 refs]. <i>Journal of Dental Hygiene</i> , 77, (2) 125-145	Not specific to care homes
Delambo, D.A. 1997. <i>Assessment of dental care training needs of direct service staff in intermediate care facilities for individuals with mental retardation</i> . PH.D. Southern Illinois University at Carbondale.	Thesis unavailable
Durgude, Y. & Cocks, N. 2011. Nurses' knowledge of the provision of oral care for patients with dysphagia. <i>British Journal of Community Nursing</i> , 16, (12) 604-610	Specific clinical population – patients with dysphagia
Dye, B.A., Fisher, M.A., Yellowitz, J.A., Fryar, C.D., & Vargas, C.M. 2007. Receipt of dental care, dental status and workforce in U.S. nursing homes: 1997 National Nursing Home Survey. <i>Special Care in Dentistry</i> , 27, (5) 177-186	Study design: epidemiology

Dyke D, Bertone M, Knutson K, Campbell A. 2012. Improving oral care practice in long-term care. <i>Canadian Nurse</i> , 108, (9) 20-24	Special population group (dysphagia); Guidance but small un-replicated UBA in single location. Not relevant to good practice review.
Edwards, M. 2008. Staff training improved oral hygiene in patients following stroke. <i>Evidence-Based Dentistry</i> , 9, (3) 73	Summary of Brady et al 2006 Cochrane Review
Ekstrand, K.R., Poulsen, J.E., Hede, B., et al. 2013. A randomized clinical trial of the anti-caries efficacy of 5,000 compared to 1,450 ppm fluoridated toothpaste on root caries lesions in elderly disabled nursing home residents. <i>Caries Research</i> , 47, (5) 391-398	Fluoride concentration levels in toothpaste
El-Solh, A.A. 2011. Association between pneumonia and oral care in nursing home residents. <i>Lung</i> , 189, (3) 173-180	Non-systematic review
Ellis, A.G. 1999. Geriatric dentistry in long-term-care facilities: current status and future implications. <i>Special care in dentistry</i> , 19, (3) 139-142	Non-systematic review of epidemiology studies
Ettinger, R.L. 2012. Dental implants in frail elderly adults: a benefit or a liability? <i>Special Care in Dentistry</i> , 32, (2) 39-41	Editorial
Fitzpatrick, J. 2000. Oral health care needs of dependent older people: responsibilities of nurses and care staff. [64 refs]. <i>Journal of Advanced Nursing</i> , 32, (6) 1325-1332	Non-systematic review
Foltyn, P. 2011. Nursing home care. <i>Australian Dental Journal</i> , 56, (2) 239	Letter
Franchignoni, M., Giordano, A., Levrini, L., Ferriero, G., & Franchignoni, F. 2010. Rasch analysis of the Geriatric Oral Health Assessment Index. <i>European Journal of Oral Sciences</i> , 118, (3) 278-283	Analysis amendments to GOHAI assessment tool
Garrido Urrutia, C., Romo Ormazabal, F., Espinoza Santander, I., & Medics Salvo, D. 2012. Oral health practices and beliefs among caregivers of the dependent elderly. <i>Gerodontology</i> , 29, (2) e742-e747	Comparison between community- and residential-based carers
Gaskill, D., Isenring, E.A., Black, L.J., Hassall, S., & Bauer, J.D. 2009. Maintaining nutrition in aged care residents with a train-the-trainer intervention and Nutrition Coordinator. <i>Journal of Nutrition, Health &amp; Aging</i> , 13, (10) 913-917	No oral health interventions or outcomes
Ghezzi, E.M., Smith, B.J., Manz, M.C., & Markova, C.P. 2007. Comparing perceptions of oral health care resources and barriers among LTC facilities. <i>Long-Term Care Interface</i> , 8, (6) 20-25	Paper unavailable. Other papers reporting this study identified.
Glassman, P. & Subar, P. 2010. Creating and maintaining oral health for dependent people in institutional settings. <i>Journal of Public Health Dentistry</i> , 70 Suppl 1, S40-S48	Non-systematic review
Glassman, P., Helgeson, M., & Fitzler, S.L. 2010. Protecting the elderly.	Letter

<i>Journal of the American Dental Association</i> , 141, (11) 1298-1299	
Gonzalez, E.E., Nathe, C.N., Logothetis, D.D., Pizanis, V.G., & Sanchez-Dils, E. 2013. Training caregivers: disabilities and dental hygiene. <i>International Journal of Dental Hygiene</i> , 11, (4) 293-297	Not residential care - community-based carers
Gornitsky, M., Paradisl, I., Landaverde, G., Malo, A.M., & Velly, A.M. 2002. A clinical and microbiological evaluation of denture cleansers for geriatric patients in long-term care institutions. <i>Journal (Canadian Dental Association)</i> , 68, (1) 39-45	Microbial outcomes
Grant, E., Carlson, G., & Cullen-Erickson, M. 2004. Oral health for people with intellectual disability and high support needs: positive outcomes. <i>Special Care in Dentistry</i> , 24, (2) 70-79	Not residential care
Guay, A.H. 2005. The oral health status of nursing home residents: what do we need to know? <i>Journal of Dental Education</i> , 69, (9) 1015-1017	Opinion/Commentary
Gutkowski, S. 2013. Using xylitol products and MI paste to reduce oral biofilm in long-term care residents. <i>Annals of Long-Term Care</i> , 21, (12) 26-28	Microbial outcomes
Habegger, L., Sloane, P.D., Chen, X. et al. 2012. Mouth care without a battle: Designing a training video to individualize mouth care for persons with cognitive and physical impairments. <i>Journal of the American Geriatrics Society</i> , Suppl S4	Conference abstract. Main study paper identified.
Hasegawa, T.K.J., Matthews, M.J., & Reed, M. 2004. Ethical dilemma #48. "Who cares for the incompetent patient". <i>Texas Dental Journal</i> , 121, (7) 616-619	Opinion/Commentary
Heyes, G. & Robinson, P.G. 2008. Pilot study to assess the validity of the single assessment process as a screening tool for dental treatment needs in older people. <i>Gerodontology</i> , 25, (3) 142-146	Mixed population of community-dwelling and residential-care participants. Not possible to disaggregate data for residential care population
Hopcraft, M.S., Morgan, M.V., Satur, J.G., & Wright, F.A.C. 2011. Utilizing dental hygienists to undertake dental examination and referral in residential aged care facilities. <i>Community Dentistry &amp; Oral Epidemiology</i> , 39, (4) 378-384	Compares screening by dentists with screening by dental hygienists
Howard, R. 2010. <i>Survey of oral hygiene knowledge and practice among Mississippi nursing home staff</i> . Ph.D. University of Mississippi Medical Center	Thesis unavailable
Innes, N. & Evans, D. 2009. Caries prevention for older people in residential care homes. <i>Evidence-Based Dentistry</i> , 10, (3) 83-8	Non-systematic review
Ishikawa, A., Yoneyama, T., Hirota, K., Miyake, Y., & Miyatake, K. 2008. Professional oral health care reduces the number of oropharyngeal bacteria. <i>Journal of Dental Research</i> , 87, (6) 594-598	Microbial outcomes

Ito, K., Tsuboya, T., Aida, J., & Osaka, K. 2013. Policy impact on employment of dental hygienists in nursing homes in japan. <i>American Journal of Epidemiology</i> , 15. 650S	Epidemiology study
Kaiser, C.M., Williams, K.B., Mayberry, W., Braun, J., & Pozek, K.D. 2000. Effect of an oral health training program on knowledge and behavior of state agency long-term-care surveyors. <i>Special Care in Dentistry</i> , 20, (2) 66-71	Training of those undertaking surveys in care homes for state agencies
Kasche, I., Schuez, B., Heiden, A., Mallach, N., & Jahn, K. 2006. Evaluation of an oral health program for carers in institutions for adults with disabilities. O2B:l. <i>Journal of Disability and Oral Health</i> , 7, (2) 86	Abstract only and not enough data to include as evidence.
Kayser-Jones, J., Bird, W.F., Redford, M., Schell, E.S., & Einhorn, S.H. 1996. Strategies for conducting dental examinations among cognitively impaired nursing home residents. <i>Special care in dentistry</i> , 16, (2) 46-52	Intervention to manage resistance to care
Kikutani, T., Enomoto, R., Tamura, F., Oyaizu, K., Suzuki, A., & Inaba, S. 2006. Effects of oral functional training for nutritional improvement in Japanese older people requiring long-term care. <i>Gerodontology</i> , 23, (2) 93-98	No oral health outcomes
Kokubu, K., Senpuku, H., Tada, A., Saotome, Y., & Uematsu, H. 2008. Impact of routine oral care on opportunistic pathogens in the institutionalized elderly. <i>Journal of Medical &amp; Dental Sciences</i> , 55, (1) 7-13	Microbial outcomes
Lawton, L. 2002. Providing dental care for special patients: tips for the general dentist. <i>Journal of the American Dental Association</i> , 133, (12) 1666-1670	Opinion/Commentary
Lemaster, M. 2013. Pilot program provides oral health services to long term care facility residents through service learning and community partnership. <i>Journal of the American Medical Directors Association</i> , 14, (5) 363-366	Full text unavailable
Lester, V., Ashley, F.P., & Gibbons, D.E. 1998. Reported dental attendance and perceived barriers to care in frail and functionally dependent older adults. <i>British Dental Journal</i> , 184, (6) 285-289	Not specific to care homes
Lim, Y.M. 2003. Nursing intervention for grooming of elders with mild cognitive impairments in Korea. <i>Geriatric Nursing</i> , 24, (1) 11-15	Very small study in non-applicable country (Korea).
Lin, M.K. & Kramer, A.M. 2013. The Quality Indicator Survey: background, implementation, and widespread change. <i>Journal of Aging &amp; Social Policy</i> , 25, (1) 10-29	Epidemiology survey
Lines, K. & Heyes, G. 2009. Care home health. <i>British Dental Journal</i> , 207, (3) 95	Letter
MacEntee, M.I., Pruksapong, M., & Wyatt, C.C.L. 2005. Insights from	Dental student training

students following an educational rotation through dental geriatrics. <i>Journal of Dental Education</i> , 69, (12) 1368-1376	
MacEntee, M.I. 2005. Caring for elderly long-term care patients: oral health-related concerns and issues. [97 refs]. <i>Dental Clinics of North America</i> , 49, (2) 429-443	Non-systematic review
MacEntee, M.I. 2006. Missing links in oral health care for frail elderly people. <i>Journal (Canadian Dental Association)</i> , 72, (5) 421-425	Opinion/Commentary
MacEntee, M.I. 2011. Muted dental voices on interprofessional healthcare teams. <i>Journal of Dentistry</i> , 39 Suppl 2, S34-S40	Opinion/Commentary
MacEntee, M.I., Kazanjian, A., Kozak, J.F., Hornby, K., Thorne, S., & Kettratad-Pruksapong, M. 2012. A scoping review and research synthesis on financing and regulating oral care in long-term care facilities. <i>Gerodontology</i> , 29, (2) e41-e52	Non-systematic review
Matear, D.W. 1999. Demonstrating the need for oral health education in geriatric institutions. <i>Probe (Ottawa, Ont.)</i> , 33, (2) 66-71	Non-systematic review
Mello, A.L.S.F.d., Erdmann, A.L., & Brondani, M. 2010. Oral health care in long-term care facilities for elderly people in southern Brazil: a conceptual framework. <i>Gerodontology</i> , 27, (1) 41-46	Does not consider barriers/facilitators
Meurman, J.H., Kari, K., Aikas, A., & Kallio, P. 2001. One-year compliance and effects of amine and stannous fluoride on some salivary biochemical constituents and oral microbes in institutionalized elderly. <i>Special care in dentistry</i> , 21, (1) 32-36	Microbial outcomes
Morreale, J.P., Dimitry, S., Morreale, M., & Fattore, I. 2005. Setting up a mobile dental practice within your present office structure. <i>Journal (Canadian Dental Association)</i> , 71, (2) 91	Microbial outcomes
Naito, M., Kato, T., Fujii, W., Ozeki, M., Yokoyama, M., Hamajima, N., & Saitoh, E. 2010. Effects of dental treatment on the quality of life and activities of daily living in institutionalized elderly in Japan. <i>Archives of Gerontology &amp; Geriatrics</i> , 50, (1) 65-68	Study compares dental treatment by dentist with no dental treatment
Naughton, D.K. 2009. The business of dental hygiene--a practice experience in nursing homes. <i>Journal of Dental Hygiene</i> , 83, (4) 193-194	Opinion/Commentary
Nishiyama, Y., Inaba, E., Uematsu, H., & Senpuku, H. 2010. Effects of mucosal care on oral pathogens in professional oral hygiene to the elderly. <i>Archives of Gerontology &amp; Geriatrics</i> , 51, (3) e139-e143	Microbial outcomes
Ohno T, Uematsu H, Nozaki S, Sugimoto K. Improvement of taste sensitivity of the nursed elderly by oral care. <i>Journal of Medical &amp; Dental Sciences</i> 2003 Mar;50(1):101-7.	No oral health outcomes. Just taste sensitivity
Pace, C.C. & McCullough, G.H. 2010. The association between oral microorganisms and aspiration pneumonia in the institutionalized elderly: review and recommendations. <i>Dysphagia</i> , 25, (4) 307-322	Epidemiology study of associations
Park, Y.H. & Chang, H. 2014. Effect of a health coaching self-	Non applicable country

management program for older adults with multimorbidity in nursing homes. <i>Patient preference &amp; adherence</i> , 8, 959-970	(Korea) and resident population/setting not considered sufficiently similar to UK population for inclusion.
Pawlin,J; Carnaby,S (eds). 2009. <i>Profound intellectual and multiple disabilities: nursing complex needs</i> Chichester, Wiley-Blackwell	Textbook
Persson, A., Lingstrom, P., Bergdahl, M., Claesson, R., & van Dijken, J.W.V. 2007. Buffering effect of a prophylactic gel on dental plaque in institutionalised elderly. <i>Gerodontology</i> , 24, (2) 98-104	Microbial outcomes
Petelin, M., Cotic, J., Perkic, K., & Pavlic, A. 2012. Oral health of the elderly living in residential homes in Slovenia. <i>Gerodontology</i> , 29, (2) e447-e457	Epidemiology study
Philip, P., Rogers, C., Kruger, E., & Tennant, M. 2012. Oral hygiene care status of elderly with dementia and in residential aged care facilities. <i>Gerodontology</i> , 29, (2) e306-e311	Epidemiology study
Pino, A., Moser, M., & Nathe, C. 2003. Status of oral healthcare in long-term care facilities. <i>International Journal of Dental Hygiene</i> , 1, (3) 169-173	Non-systematic review
Rogers, C. 2009. Dental care in aged care facilities. <i>Australian Dental Journal</i> , 54, (2) 178	Letter
Schwartz, M. 2003. Dentistry for the long-term care patient. <i>Dentistry Today</i> , 22, (1) 52-57	Opinion/Commentary
Simons, D., Kidd, E.A., & Beighton, D. 1999. Oral health of elderly occupants in residential homes. <i>Lancet</i> , 353, (9166) 1761	Letter
Simons, D., Brailsford, S., Kidd, E.A., & Beighton, D. 2001. Relationship between oral hygiene practices and oral status in dentate elderly people living in residential homes. <i>Community Dentistry and Oral Epidemiology</i> , 29, (6) 464-470	Epidemiology study
Smith, B.J. & Shay, K. 2005. What predicts oral health stability in a long-term care population? <i>Special Care in Dentistry</i> , 25, (3) 150-157	Epidemiology study
Soini, H., Muurinen, S., Routasalo, P., Sandelin, E., Savikko, N., Suominen, M., Ainamo, A., & Pitkala, K.H. 2006. Oral and nutritional status - Is the MNA a useful tool for dental clinics. <i>Journal of Nutrition, Health and Aging</i> , 10, (6) 495-499	No oral health outcomes
Stewart, S. 2013. Daily oral hygiene in residential care. <i>Canadian Journal of Dental Hygiene</i> , 47, (1) 25-30	Epidemiology study
Sumi, Y., Nakamura, Y., & Michiwaki, Y. 2002. Development of a systematic oral care program for frail elderly persons. <i>Special Care in Dentistry</i> , 22, (4) 151-155	Community-dwelling adults
Sumi, Y., Miura, H., Nagaya, M., Nagaosa, S., & Umemura, O. 2009. Relationship between oral function and general condition among Japanese nursing home residents. <i>Archives of Gerontology and</i>	No oral health outcomes



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