

**Supplemental information 3a: Detailed study information about safety netting after ED discharge**

	Univariable		Multivariable		Best evidence synthesis	
	Low risk of bias	High risk of bias	Low risk of bias	High risk of bias	Association	Level of evidence
<i>Approach of safety netting management</i>						
Follow-up program		yes (2) Augustine 2013 (all) O'Neill 2001 (all)			Yes	Moderate
Clinical pathways at initial ED visit		yes (1) Browne 2001 (spec)			Yes	Limited
Non-compliance to scheduled revisit		yes (1) Scarfone 1996 (all)			Yes	Limited
Explicit and consistent safety netting advice <sup>^</sup>		yes (4) Augustine 2013 (all) Maguire 2011 (fever) Moineau 2004 (spec) Porter 1999 (all) no (3) Fagbuyi, 2011 (spec) Liberman 2012 (spec) Roland 2011 (fever)			unclear	Conflicting
Educational intervention <sup>*</sup>		yes (3) Considine 2007 (fever) Ismail 2013 (fever) O'Neill 2001 (fever) no (3) Chande 1996 (all) Fagbuyi, 2011 (spec) Lawrence 2009 (all)	yes (1) Bloch 2013 (all) no (1) Baker 2009 (fever)	yes (1) Patel 2009 (spec)	unclear	Conflicting
Telephone follow-up	no (1) Horne 1995 (all)	yes (1) Yang 2011 (all)			unclear	Conflicting

Legend supplemental information 4a: see supplemental information 4c

## Supplemental information 3b: Detailed study information about determinants of revisits

	Univariable		Multivariable		Best evidence synthesis	
	Low risk of bias	High risk of bias	Low risk of bias	High risk of bias	Association	Level of evidence
<b>DETERMINANTS OF REVISITS</b>						
<b>CHILD CHARACTERISTICS</b>						
Younger children	yes (5) Alessandrini 2004 (all) Easter 2012 (all) Goldman 2006 (all) Liberman 2012 (spec) Zimmerman 1996 (all)	yes (4) Black 2010 (all) Logue 2013 (all) Maguire 2011 (fever) O'Loughlin 2012 (all) no (3) Angoulvant 2013 (all) Goldman 2011 (all) Roback 1997 (spec)	yes (4) Berry 2013 (all) Gallagher 2013 (all) Freedman (spec) Mansbach 2008 (spec) no (1) Jacobstein 2002 (fever)	yes (2) Gregor 2009 (spec) LeDuc2006 (all)	<b>Yes</b>	<b>Strong</b>
Medical history <sup>1</sup>		yes (1) Maguire 2011 (fever) no (1) Roback 1997 (spec)	yes (3) Berry 2013 (all) Mansbach 2008 (spec) Jacobstein 2002 (fever)	yes (1) Gregor 2009 (spec)	<b>Yes</b>	<b>Strong</b>
Gender	no (2) Liberman 2012 (spec) Zimmerman 1996 (all)	no (3) Angoulvant 2013 (all) Goldman 2011 (all) Roback 1997 (spec)	no (1) Mansbach 2008 (spec)	no (1) LeDuc2006 (all)	<b>No</b>	<b>Strong</b>
Ethnicity <sup>=</sup>	yes (1) Zimmerman 1996 (all)		yes (1) Berry 2013 (all) no (2) Jacobstein 2002 (fever) Mansbach 2008 (spec)	yes (1) LeDuc2006 (all)	unclear	Conflicting
Change on pedsQL scores				yes (1) Mistry 2009 (fever)	<b>Yes</b>	Limited
<b>SOCIAL/ DEMOGRAPHIC CHARACTERISTICS</b>						
Emergency crowding <sup>+</sup>	no (1) Alessandrini 2004 (all) yes (2) Callery 2010 (all) Easter 2012 (all)		yes (1) Goldman 2006 (all) Gallagher 2013 (all) no (2) Jacobstein 2002 (fever)	yes (1) Michelson 2012 (all) no (1) LeDuc2006 (all)	unclear	Conflicting
Low SES <sup>##</sup>	no (2) Callery 2010 (all) Liberman 2012 (spec) yes (1) Zimmerman 1996 (all)		no (1) Gallagher 2013 (all) yes (2) Berry 2013 (all) Jacobstein 2002 (fever)	no (2) Gregor 2009 (spec) LeDuc 2006 (all)	unclear	Conflicting
Characteristics care givers <sup>#</sup>	no (1) Liberman 2012 (spec)	yes (5) Augustine 2013 (all) Logue 2013 (all) Lal 1999 (all) Maguire 2011 (fever) Simmons 2012 (all) no (4) Angoulvant 2013 (all) Goldman 2011 (all) Mistry 2007 (fever) Roback 1997 (spec)	yes (1) Gallagher 2013 (all) no (1) Jacobstein 2002 (fever)	yes (2) Gregor 2009 (spec) Samuels-Kalow 2013 (fever)	unclear	Conflicting
<b>DISEASE CHARACTERISTICS</b>						
Symptoms of infectious diseases <sup>*</sup>	yes (4) Alessandrini 2004 (all) Callery 2010 (all) Easter 2012 (all) Liberman 2012 (spec)	yes (8) Angoulvant 2013 (all) Augustine 2013 (all) Black 2010 (all) Hacking 2012 (all) Klein-Kremer 2011	yes (2) Berry 2013 (all) Mansbach 2008 (spec)	no (1) LeDuc2006 (all)	<b>Yes</b>	<b>Strong</b>

Respiratory symptoms**	yes (3) Alessandrini 2004 (all) Callery 2010 (all) Zimmerman 1996 (all)	(fever) Logue 2013 (all) Mintegui 2000 (all) Simmons 2012 (all) yes (4) Hacking (2012) Klein-Kremer 2011 Lal 1999 (all) Mintegui 2000 (all) no (2) Angoulvant 2013 (all) Roback 1997 (spec)	yes (2) Berry 2013 (all) Mansbach 2008 (spec)		Yes	Strong
Seizure and other nervous system	yes (1) Easter 2012 (all)		yes (1) Berry 2013 (all)	yes (1) LeDuc2006 (all)	Yes	Strong
Progression/persistence of symptoms^	yes (3) Ali 2012 (all) DePiero 2002 (all) Easter 2012 (all)	yes (9) Augustine 2013 (all) Dunlop 2005 (fever) Klein-Kremer.2011 (fever) Lal 1999 (all) Logue 2013 (all) Maguire 2011 (fever) Mistry 2007 (fever) Moineau 2004 (spec) Roggen 2012 (all) no (3) Hacking 2012 (all) Roback 1997 (spec) Goldman 2011 (all)	yes (1) Freedman (spec) no (1) Mansbach 2008 (spec)		Yes	Strong
Trauma/ surgery	yes (1) Alessandrini 2004 (all) no (1) Zimmerman 1996 (all)	no (1) Klein-Kremer 2011 (fever)	yes (1) Berry 2013 (all)		unclear	Conflicting
Acute triage category/ Illness acuity <sup>s</sup>	yes (1) Alessandrini 2004 (all) no (1) Lieberman 2012 (spec)	yes (2) Goldman 2011 (all) Logue 2013 (all) no (1) Moineau 2004 (spec)	yes (4) Freedman 2013 (spec) Gallagher 2013 (all) Goldman 2006 (all) Jacobstein 2002 (fever)	no (1) Gregor 2009 (spec)	unclear	Conflicting
Change in working diagnosis		yes (1) Mintegui 2000 (all) no (1) Goldman 2011 (all)			unclear	Conflicting
Pain/ soreness		yes (1) Klein-Kremer 2011 (fever) no (1) Angoulvant 2013 (all)			unclear	Conflicting

#### PHYSICIAN CHARACTERISTICS

Characteristics physician~~	yes (1) Seow 2007 (fever)	no (2) Chang 2008 (all) Roback 1997 (spec)	no (2) Gaucher 2012 (all) Jacobstein 2002 (fever)		No	Strong
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#### PROCESS CHARACTERISTICS

Diagnostic tests/ therapeutic intervention^^		no (3) Angoulvant 2013 (all) Klein-Kremer 2011 (fever) Mistry 2007 (fever) yes (1) Angoulvant 2013 (all)	no (1) Jain 2010 (all)	no (1) Florin 2013 (spec)	No	Strong
Hospitalisation	no (1) Small 2005 (spec)				No	Moderate
Hospital at home care		no (1) Sartain 2002 (all)			No	Limited

Legend supplemental information 4b: see supplemental information 4c

### **Supplemental information 3c:** explaining determinant-differences of all included studies

All: all disease studied;

Fever: febrile patients studied;

Spec: disease specific studies, e.g. respiratory tract infections, gastroenteritis, bronchiolitis, influenza-like illness

<sup>^</sup> *Explicit and consistent safety netting advice, including:*

- Generic discharge instructions (Augustine 2013)
- Pre-printed discharge prescription and instructions (Fagbuyi 2011)
- Discharge information sheets (Moineau 2004)

<sup>\*</sup> *Educational intervention, including:*

- Classroom-style parent discharge education (Fagbuyi 2011)
- Evidence-based education of emergency nurses on parental advice regarding fever management (Considine 2007)
- Video discharge instructions (Bloch 2013; Ismail 2013)
- Computer-generated diagnosis-specific discharge instructions (Lawrence 2009)
- Verbal reinforcement of written discharge instructions by a bilingual discharge facilitator (Patel 2009)

<sup>=</sup> *Ethnicity, including:*

- Hispanic vs white (LeDuc 2006; Zimmerman 1996)
- Black vs other (Jacobstein 2002)
- Non-white vs white (Mansbach 2008)
- Black and Latino vs white (Berry 2013)

<sup>l</sup> *Medical history, including:*

- History of intubation and/or eczema (Mansbach 2008)
- No ED visit during past week (Mansbach 2008)
- History of wheezing and family history of asthma (Roback 1997)
- Chronic condition indicator (CCI) group and CCI count (Berry 2013)
- Prior ED use (Gregor 2009)
- Chronic disease (Jacobstein 2002)
- Anemia or neutropenia (Berry 2013)
- Sickle cell anemia crisis (Berry 2013)

<sup>#</sup> *Characteristics care givers, including:*

- Caregivers age; education status; employment status (Jacobstein 2002)
- Living near hospital/ primary care physician (Jacobstein 2002; Liberman et al. 2012)
- Family demographics: age primary caregiver; marital status; presence and age of other children; presence of other caregivers (Mistry 2007)
- Language spoken at home (Gallagher 2013; Goldman 2011; Samuels 2013)
- Parental perception of illness (Maguire 2011; Lal 1999)
- Single caregivers (Gregor et al. 2009)
- Consultation with sibling (Angoulvant 2013)
- Dissatisfaction with initial visit (Augustine 2013)
- Anxious/ stressed carer (Logue 2013; Simmons 2012)
- Demographical data (Roback 1997)

*## Low social economic status (SES), including:*

- Living in low SES area (Callery et al. 2010)
- Insurance type (Jacobstein 2002; Liberman 2012)
- Public insurance (Zimmerman 1996)
- Insurance type (Berry 2013; Gregor 2009; LeDuc 2006)
- Carers' highest level of education (Gallagher 2013)

*+ Emergency crowding, including:*

- Timing of revisit (Alessandrini 2004)
- Same day discharges (Callery 2010)
- Weekend/ weekday (Jacobstein 2002)
- Arriving 3pm-11pm via private transportation (Easter.2012)
- Arrival in evening/ weekend hours (Goldman 2006; leDuc 2006)
- Arrival during overnight shift (Gallagher 2013)

*\*Symptoms of infectious diseases, including:*

- Feverish illnesses (Angoulvant 2013; Augustine 2013; Callery 2010; Easter 2012; Mintegui 2000)
- Initial diagnosis of URTI (Black 2010; Easter 2012; Hacking 2012)
- Gastroenteritis//diarrhoea/ dehydration/ vomiting (Berry 2013; Black 2010; Callery 2010; Easter 2012; Hacking 2012; Klein-Kremer 2011; LeDuc 2006; Simmons 2012)
- No adequate oral intake (Mansbach 2008)
- Temperature in triage (Klein-Kremer2011)

*\*\* Respiratory symptoms, including:*

- Respiratory related illnesses (Alessandrini 2004)
- Breathing difficulty (Callery 2010)
- Cough (Klein-Kremer 2011)
- Respiratory symptoms (Angoulvant 2013; Mintegui 2000)
- Respiratory diagnoses (Berry 2013; Hacking 2012; Zimmerman 1996)
- Specific respiratory symptoms, including:
  - Age-specific respiratory rates (Mansbach 2008; Roback 1997)
  - Severe retractions (Mansbach 2008; Roback 1997)
  - Initial oxygen saturation <94% (Mansbach 2008; Roback 1997)
  - More albuterol/epinephrine in first hour (Mansbach 2008; Roback 1997)
  - No adequate oral intake (Mansbach 2008)

*= Trauma/ surgery*

- Limping (Klein-Kremer 2011)
- Trauma (Alessandrini 2004)
- Minor trauma (Zimmerman 1996)
- Ventricular shunt procedures (Berry 2013)

*\$ Illness acuity, including:*

- Mild disease severity at ED index visit (Gregor 2009)
- Higher acuity in 2nd visit (Goldman 2011)

*^ Progression/ persistence of symptoms, including:*

- Prolonged fever (Klein-Kremer 2011)
- Impairment in child activities (Mistry 2007)

- Parental perception of illness (Lal 1999; Maguire 2011)
- Time elapsing from 1<sup>st</sup> visit – revisit (Goldman 2011)

~~ *Characteristics physician, including:*

- Treatment by physician versus intern (Jacobstein 2005)
- Physicians' year of experience/ training level (Gaucher 2012; Roback 1997)
- Attending physician versus resident (Chang 2008)
- Pediatrician vs Emergency physician (Seow 2007)

^^ *Diagnostic tests/ therapeutic intervention, including:*

- Obtaining blood cultures/ tests (Angoulvant 2013; Klein-Kremer 2011)
- Radiological assessment (Angoulvant 2013)