International Association of Defense Counsel Committee members prepare newsletters on a monthly basis that contain a wide range of practical and helpful material. This section of the Defense Counsel Journal is dedicated to highlighting interesting topics covered in recent newsletters so that other readers can benefit from committee specific articles.

Electronic Health Records: The Future of Standard of Care?

By: Doug Vaughn and Autumn Breeden

Doug Vaughn is a partner at Deutsch Kerrigan, LLP in Gulfport, Mississippi. His practice is focused on litigation and health law, including defense of medical malpractice claims and representation of physicians in matters concerning their medical licensure and hospital privileges. He represents businesses and individuals in matters of commercial litigation, products liability and catastrophic personal injury and transportation law. He chairs the IADC’s Medical Defense and Health Law committee. Autumn Breeden is a rising third year law student at the University of Mississippi School of Law. Ms. Breeden is the Executive Notes and Comments Editor of the Mississippi Law Journal and is President of the Law Association for Women at the University of Mississippi School of Law. She is also the Magister of the law school’s chapter of Phi Delta Phi Legal Honor Society.
ELECTRONIC Health Records ("EHRs") are a recent innovation in the medical world and are meant to simplify patient care, save medical practitioners time on charting, and make a patient’s medical history more easily navigable. But no new technology is implemented without its own accompaniment of bugs, errors, and a learning curve. A sampling of lawsuits closed between 2007 and 2013 showed that EHRs were cited as a factor in only 1% of the cases. The number of EHR related lawsuits doubled between 2013 and 2014, consistent with widespread adoption of the electronic technology. One potential reason this may have occurred is because EHRs hold more data than paper records. While increasing data in a patient’s medical chart may sound entirely positive, doing so actually creates more complexity and may increase liabilities to health care providers because small details buried in mounds of data may more easily be missed.

The most commonly cited errors in EHR-related malpractice claims are incorrect data input and other user errors. These types of errors commonly include drop down menus that address the most common scenarios, auto-correct, auto-population of data fields, cut and paste, having hybrid records (paper and electronic simultaneously), or simple user mistake when inputting information. These types of errors are ones that may begin to show up in litigation of medical malpractice suits as EHRs become more commonly utilized in the healthcare arena.

Other data tracked by EHRs such as the length of time a physician spends on various tasks may also be at issue in a medical malpractice suit. This data regarding time spent on a specific task, or the various medical providers who made entries and edits to the records could possibly be compared to metadata. Such data could prove to be especially significant in a situation where a primary care physician and a specialist are both recorded in the EHR as having reviewed test results where abnormal findings were undetected or not acted upon.

Another issue that has recently presented itself is the way courts have dealt with EHRs. Rene Quashie, an attorney in the District of Columbia, was quoted saying “[U]nlike paper records, where incomplete or illegible records are expected, with EHRs they’re expected to be complete and immediately accessible and portable.” Such expectations could impact the discovery process. An issue known to those who practice in the defense of health care professionals and facilities is the difficulty in getting a complete, uniform and consistent print copy of a patient’s EHR.


2 Id.


4 Id.

5 Id.


7 Hirsch, supra n. 3.
for litigation purposes when requested by a party. The complexities involved in obtaining print copies of something intended to be viewed on a computer screen are well recognized by practitioners.

Other issues the courts may see in the future include whether a physician who overrides an alert created by the EHR could be accused of deviating from the standard of care, and whether failure to use an EHR may itself constitute a deviation from the standard of care.8

In Laskowski v. United States Department of Veteran Affairs, a District Court for the Middle District of Pennsylvania case, a veteran brought claims of medical malpractice and negligence against the VA Hospital for failure to treat his Post Traumatic Stress Disorder.9 The issues raised in this case included an instance where electronic medical records were not used, resulting in a breakdown of communication regarding which medical providers had done what.10 The Court found in favor of the Plaintiff and awarded him $3.5 million dollars in damages.11 While the non-use of the electronic health records was not the only factor that the Plaintiff argued, it was one that will likely only become more prevalent as EHRs become the standard in medical practice.

An article recently published about the role of EHR in patient harm, errors and malpractice claims, entitled Electronic Health Record – Related Events In Medical Malpractice Claims uses an interdisciplinary author team to examine these interactions. The article provides an appendix with a lengthy list of cases in which the use, or misuse, of an EHR contributed to a patient’s injury or death.12 Some of the cases included a medical provider electronically signing a discharge order omitting a patient’s medication, resulting in the patient being readmitted with a stroke; a patient received a medication in the ER despite a known allergy that was documented in the paper record but not uploaded into the EHR; a doctor intended to order one medication but accidentally selected the one below it on the drop down menu; and a prescription was ordered for a patient allergic to a medicine family, the doctor over-rode the alert provided by the EHR and the patient had a serious allergic reaction.

Once use of EHRs is mastered and the common missteps are avoided, “EHRs” actually can help physicians defend their care by better documenting medical decision making and the rationale behind them.”13

8 Id.
10 Id. at 318-319.
11 Id. at 333.
13 Kreimer, supra n. 6.
The EU Blue Card

By: Gerlind Wisskirchen

Gerlind Wisskirchen is a specialist lawyer in the area of labor and employment law with a special focus on advising international corporations. The excellence of her advice lies in her profound understanding of the business environments of her clients and her strategic, precise, clear recommendations. In a globalized world in which national borders are increasingly diminishing and corporations are facing global challenges, she has particular expertise in cross-border projects like business reorganizations (outsourcing, off-shoring), compliance issues, cross-border compensation programs, cross-border audits and internal investigations, company co-determination, matrix structures of multinational corporations, the European works council, the implementation of codes of conduct and whistleblowing systems, the posting of employees, data privacy protection issues and holistic production systems (Toyota business system). She developed the “EU Labor & Employment Law Navigator”, a comparative analysis of the labor law systems in Europe.

This article originally appeared in the August 2016 Employment Law Committee newsletter.

The EU Blue Card is a work and residence permit granted by a member state of the European Union.1 Citizens of third countries can apply for it in order to commence employment in the specific EU state. Its name is derived from the U.S. “Green Card” and the blue color of the European flag.

The legal basis is EU Directive 2009/50/EC. In October 2007, the European Commission adopted two proposals: the first one known as the EU Blue Card Directive, which was adopted by the European Council in May 2009 for the purpose of admitting skilled and educated migrants to the EU, and the second known as the Single Permit Directive, which simplifies migration procedures by funneling applicants into a single application procedure. The second directive was adopted in December 2011. Together, the directives establish the EU Blue Card scheme, a demand-driven, residence and work permit.

The Blue Card’s purpose is to make it possible for the residence of third-country nationals in the EU to balance the expected or already existing shortage of qualified persons in a lot of employment sectors. The EU Blue Card is granted within the entire EU, except for Great Britain, Ireland and Denmark.

---

I. Requirements for Obtaining an EU Blue Card?

The people who can obtain an EU Blue Card are: highly qualified workers, researchers, vocational trainees, students, school pupils in exchange programs, voluntary workers, seasonal workers and intra-corporate transferees.

A. Highly Qualified Workers

The first condition is that a worker has a work contract in the EU member state. Otherwise, they have to apply for a job seeker/employment visa to look for a company that is willing to bring foreign employees within their work environment and could benefit from the skills they provide.

1) To get a job seeker/employment visa, the worker has to have a university degree and sufficient funds to support themselves. Such a visa allows residence in the desired member state for six (6) months in order to find a job.
2) If they already have a job, they need to have the following documents to obtain an EU Blue Card:
   - For unregulated professions – a recognized university diploma
   - For regulated professions – the acquired certificate
   - A work contract for at least one year in the hosting state
   - Proof that the salary exceeds the average in the hosting state by 1.5 times or 1.2 times for professions in shortage
   - A written declaration by the employer – only paid employees, no self-employed or entrepreneurs
   - A valid travel document
   - Proof that the applicant does not represent a threat to the public policy, security or health of the hosting state
   - A written declaration by the employer – only paid employees, no self-employed or entrepreneurs
   - A valid travel document
   - Proof that the applicant does not represent a threat to the public policy, security or health of the hosting state
   - A written declaration by the employer – only paid employees, no self-employed or entrepreneurs
   - A valid travel document
   - Proof that the applicant does not represent a threat to the public policy, security or health of the hosting state
   - A written declaration by the employer – only paid employees, no self-employed or entrepreneurs
   - A valid travel document

The application is filed by post to the authorized Federal Office for Migration or Employment in the hosting state. A decision is made within 90 days after the application. The EU Blue Card holder is entitled to the same rights as citizens of the hosting state after two (2) years of work and residency, excluding loans, grants and housing rights.

The EU Blue Card allows the card holder to visit other EU member states for three months during a six-month period. After 18 months, the card holder may move to another member state to start highly-skilled employment. In the new country, a new application for an EU Blue Card is obligatory.

---

2 http://www.eu-bluecard.com/.
To change jobs during the first two years of arrival, a request should be filed with the competent authorities, and the decision of the authorities must be complied with. Unemployment for highly-qualified workers may not last longer than three (3) consecutive months. The competent authorities should be notified of the unemployment period. If unemployment recurs, a withdrawal of the EU Blue Card by the competent authorities may be the consequence.

a) The application for an EU Blue Card can also be refused. The national authorities will reject the application if:
- The applicant does not meet the various conditions outlined above.
- The application was based on incorrect or false information.
- The applicant represents a threat to public policy, public security or public health.

b) The national authorities may reject the application if:
- A national or EU worker, or an already legally present non-EU citizen, could fill the vacancy.
- The employer has been found guilty of employing irregular migrants without the necessary documents.
- The home country lacks qualified workers in the applicant’s sector.

The EU member states can also set a quota for high-qualified workers obtaining an EU Blue Card.

B. Researchers

The Researchers’ Directive applies to the procedure of admission for non-EU researchers interested in carrying out work in an authorized research organization in an EU member state for periods longer than three months. A research organization – university, institute, private company – is considered authorized when approved by the national authorities to host non-EU researchers. The applicant must provide:

- Scientific qualifications
- Sufficient financial resources
- Health insurance proof
- An agreement with the employer
- A valid passport/travel document
- A written declaration from the research organization concerning the reimbursement of costs should he/she overstay

The agreement is similar to a contract with the authorized research organization that validates the project and stipulates the work conditions. The permit is valid for at least one year and can be renewed if the conditions are still fulfilled.

C. Vocational Trainees

Applicants must find vocational training for admission at an academy or other

---


7 http://www.eu-bluecard.com/researchers/. In the following, only the peculiarities that differ from the instructions for highly-qualified workers are outlined.


9 http://www.eu-bluecard.com/vocational-trainees/. In the following sections, only the peculiarities that differ from the instructions for highly-qualified workers are outlined.
similar institution they cherish in order to apply for the EU Blue Card permit. Upon completion of training, the trainees are permitted to stay in the member state for another year to seek employment. In the meanwhile, any kind of job might be taken up as a means of self-support. Once a job fitting their qualifications is found, an appropriate residence permit, such as the EU Blue Card should be obtained. These workers need the same documents as the highly-qualified workers to get the Blue Card. Depending on the hosting country, these workers may also need to undertake basic training to ensure they have the language skills needed.

D. Students

After one year of studying in an EU member state, students seeking a higher education qualification may obtain a permanent residency permit or apply for the EU Blue Card. Rules and regulations vary from state to state, but the basic factors are similar throughout the member states:

- The student must have been admitted to a higher education institute to pursue a full-time course of study leading to a higher education qualification, such as a diploma, certificate or doctoral degree.
- The student must have enough financial resources to cover living and study costs for the stay, as well as the return travel costs.
- The student must not threaten public security or public health. Depending on the country that he/she wishes to study in, he/she may also have to prove:
  - Knowledge of the language of the study program.
  - That fees charged by the higher education institution are paid.

However, EU member states must allow the students to work not fewer than ten (10) hours per week, while not exceeding a maximum of twenty, outside their study time.

If the student wishes to study in a second EU member state, he/she needs to have the qualifications and documents mentioned above, all necessary documents proving the academic record, and proof that the course in the second country is related to the course he/she pursued in the first country. The student must have been studying in the first EU country for at least two (2) years or must be participating in an EU or bilateral exchange program.

E. School Pupils (Exchange)

The conditions for a permit are:

- The applicant has been accepted by a secondary education center (i.e. between primary education and tertiary education, for pupils typically between 12 and 18 years old).
- The applicant is part of a pupil exchange program agreed by the EU country.
- The pupil exchange organization accepts responsibility for all costs (living, study, return travel, health insurance).
- The pupil will stay with a host family.

---

10 http://www.eu-bluecard.com/students/.
• The pupil is within the age limits set by the host country.

F. Voluntary Workers

To get a residence permit, the applicant has to meet the following conditions:

• Be within the age limits set by the host country.
• Have an agreement with the host organization responsible for the voluntary service program. This agreement should set out the tasks and working hours and any training the applicant may receive, explain how he/she would be supervised, and describe the funds available to cover the costs of the stay (travel, living, accommodation).
• Provide evidence that the voluntary service organization will accept responsibility throughout the stay and look after his/her health care needs.

The residence permit will last for the duration of the placement/program and for a maximum of one (1) year. In exceptional cases, the residence permit may be renewed once. The national authorities will reject the permit for the same reasons for which they will reject the permit of highly-qualified workers.

G. Seasonal Workers Directive

This directive is a complementation of the EU Blue Card, which allows seasonal workers to work in a specific EU member state to offer their skills and knowledge. The EU Blue Card will be valid at the time the seasonal worker’s skills are needed. The most frequent areas are agriculture, horticulture, tourism and/or similar occupations.

Within one (1) calendar year, seasonal workers are allowed to work in the hosting state for five (5) to nine (9) months, a permit extension being possible, depending on the work contract. The costs for travel and health insurance have to be paid by the employer. It is possible to re-enter as a seasonal worker only if the previous permit acquired within the last five (5) years is respected. The seasonal worker may file a request for extension of permit or change of employer with the competent authorities.

If the employer does not respect the conditions of the agreement, the seasonal workers have the right to appeal/complain, and the employer is compelled to compensate them even after they have left the member state.

a) Seasonal workers are excluded from the following benefits:
• Family reunification benefits (since their stay is shorter than a year)
• Educational or vocational benefits
• Unemployment benefits (social assistance)

Nonetheless, they have the right to retirement benefits for the period they have worked in the hosting state. It is possible to obtain a permit to work as a seasonal worker in another EU member state: the sole condition is the approval of competent authorities of both member states.

b) The EU Blue Card for seasonal workers may be rejected if the

---

14 See the section “highly qualified workers” for the documents required.
vacancies can be filled by citizens of the hosting state, other EU citizens or non-EU citizens already residing in the hosting state.

Other reasons for rejection:

- Lack of qualified workers in the specific job group in the home country, causing brain drain
- The number of workers accepted is pre-defined by the hosting state
- The employer took part in fraudulent acts
- The seasonal worker’s documents prove to be false
- The seasonal worker is a hazard to society, or
- He/she no longer satisfies the required conditions.

II. Intra-Corporate Transferees Directive:15

This directive was approved in 2014 to compliment the EU Blue Card directive in order to provide faster access to qualified non-EU workers by improving and simplifying the process of issuing work permits. It makes it possible for multinational corporations to legally transfer their employees throughout their places of operation – which has proved to be a very effective practice. Only those selected employees are able to apply for the EU Blue Card who have worked for the company for between three (3) and twelve months without interruption.

The following documents should be presented:

- For unregulated professions – a recognized university diploma
- For regulated professions – proof of the acquired certificate
- A work contract for at least one year in the hosting state
- Proof of the salary exceeding by 1.5 times the average salary in the hosting state or for professions in shortage 1.2 times the average salary in the hosting state
- A written declaration by the employer
- A valid travel document
- Proof that the applicant does not present any threat to the public policy, security or health of the hosting state,
- An application form filled out by either the transferee or the employer
- Two passport-size personal photos not older than six months
- Proof of payment of the application fee
- Proof of return home after job completion
- Dates of mobility if required to work in more than one EU member state

The decision regarding the status is made within 90 days by the competent authorities. If the candidate does not stay in the EU member states for more than nine (9) months, the family reunification benefits may not be granted.

The Intra-Corporate Transferee permit will be valid for a maximum of three (3) years for managers and specialists, but one (1) year for trainee employees. A renewal of the permit is possible if the transferee applies 90 days before the expiration date of the permit. In the event of any changes (place or work), the competent authorities

have to be notified prior to the change or within one (1) month of it.

Intra Corporate Transferees are not entitled to:

- Housing
- Grants
- Loan rights

**Important:** If an applicant for the EU Blue Card has no university degree, five years of work experience in the relevant profession are required!16

### III. Risks of Losing the EU Blue Card17

It is possible to lose the EU Blue Card for any of the following reasons:

- The necessary conditions outlined above are no longer met.
- It is found out at a later stage that the application was based on false information or documents.
- The card holder represents a threat to public policy, public security or public health.
- The card holder has no sufficient financial resources to maintain himself/herself and his/her family members without social assistance.

### IV. EU Blue Card Validity18

Validity depends on the specific work contract, but has a margin from between one (1) and four (4) years. After the expiration date of the EU Blue Card, three (3) additional months are granted in order to provide the EU Blue Card holders with a sufficient amount of time to extend or find another job.

If a renewal of the EU Blue Card is desired, the applicant has to add a copy of the earlier EU Blue Card to the rest of the documents. The application process may take up to 90 days. During this period, the applicant is allowed to legally work and reside in the hosting state.

### V. EU Blue Card Benefits19

- Equal work and salary conditions to those for national citizens
- Free movement throughout the EU
- Recognition of diplomas and qualifications20
- Social rights, including education, economic, cultural, human, health rights:21

Every member state is free to decide who is to be insured under its legislation, the conditions and benefits granted, as well as methods of benefit calculations. When the Card holder no longer resides in the member state he/she has worked in, he/she is entitled to the same pension as the citizens of the member state in question.

- Family reunification22

If a Blue Card holder is able to present an employment contract for one or more than one year in the hosting state, he/she

---

has the right to bring family members. The entitled family members are the spouse, children, partner, children of the spouse, other dependent relatives. The Card holder is the sponsor for the family member’s permit.

The application documents for family members must be prepared according to the relevant embassy or consulate requirements. As soon as the permit is granted, the family members have access, upon arrival, to the same rights as the rest of the citizens. The family can be invited to accompany an EU Blue Card or Permanent Residency Permit holder in a hosting state.

Other rules apply to EU citizens trying to bring their non-EU family members to the residing EU state. Non-EU family members of EU citizens are required to present:

- A valid passport
- Registration certificate or proof of residence
- Proof of family relationship (marriage or birth certificate, depending on the relationship)
- For children or grandchildren – proof of being under 21 or dependent on the Card holder
- For parents or grandparents – proof of dependency on the Card holder
- For other family members – proof of dependency on the Card holder, health conditions, etc.
- Unmarried partners – proof of long-term relationship with the Card holder

After being obtained, the residency permit is valid for up to five years and expires on the same date as the holder’s. Family members may have to wait for a maximum of six months for a decision by competent authorities. EU Blue Card holders are free to move with their families within other EU member states, being required to notify the authorities either before the move or within one month of arrival in the new member state.

Family members are not required to speak the language prior to moving to the hosting EU state, although faster access to employment is enjoyed by those who do speak the language, especially at the B1 level.

- Spouses younger than 21 may be refused the permit, and those persons who are considered hazardous to the public policy, health and security as well.
- Permanent residency rights.

### VI. Long-Term Residents

A permanent residency permit can be obtained after five years of legally residing and working within the hosting EU member state as an EU Blue Card holder. Periods of ten (10) months or six (6) consecutive months of not residing in the hosting state for reasons like military service, illnesses, maternity or research and study will not be regarded as interrupting the residence within the hosting state. In order to obtain the long-term residency permit, the applicant will need:

- Sufficient financial resources to maintain oneself without seeking social assistance
- Health insurance

The response to the application for long-term residency may take six (6) months, and the permit is valid for five (5) years. After the expiration date, an automatic application for renewal is possible.

A long-term resident has access to almost the same benefits as the citizens of the hosting state and is allowed to move freely within the EU:

A. Access to:
   1. Employment and all correlating conditions
   2. Education and vocational training
   3. Social security and health insurance
   4. Social assistance
   5. Social benefits
   6. Freedom of movement, especially in the EU
   7. Freedom of association or union
   8. Housing
   9. Grants
   10. Loans

B. Residence in another EU member state for a period of over three (3) months is possible in the event of economic activity as employed or self-employed, or pursuit of studies. The following documents need to be presented to the authorities:
   1. The long-term residence permit
   2. Identity document
   3. Employment contract
   4. Accommodation
   5. Financial resources
   6. Health insurance

C. In EU states, citizenship may be applied for only if you have legally worked and resided in the EU state for approximately eight (8) years. The long-term residency permit may be rejected on grounds of:
   1. Public policy and security threat
   2. Absence from the hosting country for more than twelve consecutive months
   3. Fraud
   4. The number of non-EU citizens to be admitted is already established by the hosting state

VII. EU Blue Card Network

Through the platform of the network, employers may offer employment and residence in the EU to non-EU nationals on the EU Blue Card. Thanks to the platform, it is possible to submit the EU Blue Card application electronically.

The first step is to create a profile, where information should be added about the applicant’s education, trainings and personal qualities. This profile forms the basis for the application. Candidates are encouraged to complete their profile in order to increase their visibility with potential employers. Attachments may be added to the profile, such as a curriculum vitae (CV) and up to five educational or professional achievements. The candidate has unlimited, secure access to the online profile.

Employers will browse through the profiles in search of a matching candidate. When the candidate is found, the employer will connect and initiate the interview process for a job contract or binding job offer. The EU Blue Card Network does not receive any commission or fee when a successful match leads to a job contract or issuance of the blue card; the platform serves as a facilitator and expeditor.

24 https://www.apply.eu/Network/.
The personal online profile allows the submission of an electronic application for the EU Blue Card. When technically possible, the application is forwarded to the appropriate authorities. Alternatively, guidance is provided on how to proceed. This functionality comes with a complete profile.

Blue Card issuance procedure is defined as “fast-track”: when the application is accepted, the card is issued within three (3) months.

VIII. Problems Concerning the EU Blue Card

Making a distinction between highly and poorly qualified workers could constitute discrimination due to the granting of different rights. There is concern that the migrants will be subjected to discrimination on grounds of their origins and levels of education, which will increase the already existing disparities.  

IX. New Reform Plans: The EU Wants to Lower Immigration Barriers – Even for Refugees

In June 2016, the EU Commission proposed to reform the actual EU Blue Card system, as it is practiced (nearly) only by Germany. Of a total of 30,500 Blue Cards granted, Germany granted 26,000 from 2012 until 2014. Only 31 percent of the highly qualified non-EU immigrants choose the EU; many more choose to immigrate to the U.S. or Australia. The Commission is supported by the Organization for Economic Co-operation and Development (OECD), which recommends facilitated recognition of foreign training qualifications.

The new regulations will facilitate access to the European labor market, moves to other EU states and permit independent sideline work (which should support the incorporation of an enterprise). Families are supposed to be able to come together much more rapidly and should be granted permanent residency permit faster.

Specific changes should be:

1. Applicants for the EU Blue Card have to show an employment contract for at least six (6) months term with an employment contract with a

---


local employer (instead of at least one year).

2. Possibility of application for a permanent right of residency after three instead of five years.

3. Lowering of the income threshold for an EU Blue Card; in extreme cases, especially for very young highly qualified immigrants or in the event of a great demand for skilled employees, the EU states should be able to lower the income limit to 80 percent.

These rules should also apply to refugees if they fulfill the conditions for the granting of the EU Blue Card and if they are allowed to work as identified refugees within the specific Member State. The EU Member States and the European Parliament would have to accept the reform.
Independence Day

By: Bill Perry

Bill Perry is the Senior Partner of Carter Perry Bailey LLP, a boutique (re)insurance and commercial litigation firm in the City of London. President of IADC in 2011-12, he was also President of Insuralex (the global insurance law firm network) in 2012-14. Bill’s MA is from Oxford University. He qualified as a solicitor (Honours, top 1%) at Norton Rose, was Senior Partner of Pickering Kenyon (the oldest firm in England) and then Head of Litigation & Dispute Resolution at Charles Russell. Bill has been rated in Chambers UK, the Legal 500, Who’s Who Product Liability Defence, and Insurance and Reinsurance, and Citywealth Leaders List over many years, is a Superlawyer and has been rated one of the top 100 lawyers in London by Thomson Reuters.

This article originally appeared in the August 2016 International Committee newsletter.

There is a relatively small island (a bit smaller than Oregon) off the North West corner of the continent of Europe. Having been populated by a wave of immigrants at a time when it was still joined to that continent, in about 6,000 BC the land bridge which joined them was destroyed by a combination of rising seas levels and the Storegga Slide. Since that time, about 20 miles of water has separated it from the continent.

For the first 6,000 years of that separation, it was left alone, though it traded a bit with the nearest country on the continent, eventually named Gaul. In 55 BC, it was temporarily invaded by a Roman aggressor called Julius Caesar. Having failed to achieve his objectives, he returned in 54 BC to have, literally, another bash. He left again the same year.

Finally, the Britons having remained both annoying and apparently resource-rich, the same aggressive power, by then the Roman Empire under the Emperor Claudius, in 43 AD invaded and conquered the country they named Britannia. Even then, Rome’s success was not complete: the country rebelled under a forceful female leader in 61 AD (unsuccessfully). Having not tried very hard and then abandoned attempts to conquer the extreme north of the island, the Romans under the Emperor Hadrian built a wall (about 30 miles south of the eventual English/Scottish border) to keep out the Picts; in 142 AD they built another one further north, between the Firth of Forth and the Firth of Clyde (as they now are) but in 158 AD they reverted to the original
plan. (They never tried to conquer the other, rather smaller, island to the west.)

About 350 years after the occupation began, in 410 AD, the British expelled the magistrates of usurping Roman Emperor Constantine III. The true Roman Emperor, Honorius, responded that they were on their own again. There followed 650 years largely of isolation from the continent again, marked however by a series of invasions, perhaps most famously by the Angles (who changed the name of the bit they had conquered) and Saxons, but also a bit later some Norsemen and Danes. Between them the Anglo-Saxons brought a habit of holding ‘moots’ both local and national to do justice and hear and decide grievances.

In 1066 AD, following the death of the King of what by then had been transmuted from ‘Angleland’ to ‘England’, one William the Bastard, the then Duke of Normandy (so called because it is populated by Norsemen who moved in at about the same time as some of them followed the Anglo-Saxons into England), made good a somewhat dubious claim to the throne of England by invading and conquering it - and was duly renamed William the Conqueror by his fair-minded subjects. Within the next 200 years, the Kings of England had, with the blessing of Pope Alexander III, taken over a perennially rebellious Ireland. They had also conquered the Principality of Wales and absorbed it into the nation-state of England.

The island has never been invaded since (unless one counts a quick trip by the Dutch in 1688 AD to assist the English, Scots and Welsh in installing William of Orange (William III) and his wife, Mary, as Protestant monarchs, kicking out the Catholic King James II/VII). This was mainly thanks to a great navy created and led by men like Drake, Pepys, St Vincent, Nelson and Jellicoe, as well an army led by men like Richard the Lionheart, Edward III, Henry V, Marlborough and Wellington.

In 1603, the Scots (who had taken over from the Picts north of the border) kindly allowed their King James VI also to become James I of England (and James I of Ireland). After all, as James himself put it: “Hath He not made us all in one island, compassed with one sea and of itself by nature indivisible”? Scotland and England were formally united in 1707, and union with Ireland was effective on January 1, 1801. Despite vicissitudes which mean that the United Kingdom now only includes Northern Ireland, rather than the whole of Ireland (though any Irish citizen can still vote in the UK), that remains (literally – the relevant laws are still in force) the position.

During this time, England developed its own language (a curious amalgam of Anglo-Saxon, ancient British, a bit of Latin, a bit of Norman French and so on, which has proved remarkably flexible and adept both at absorbing words from any other language and inventing new ones), its own legal system (based on ancient customs, principles and above all precedent rather than sticking with Roman law and trying to create all-encompassing codes), its own system of governance (involving the idea that even the King was subject to the law, and even his subjects had their own rights and freedom, as well as the idea that the King could not levy taxes without the consent of the Commons) and its own religion (Protestant, rather than either Catholic or
Lutheran/Calvinist). Some of these developments were happy accidents arising from rather unglamorous roots (such as the Protestant Church) but others, such as Magna Carta (1215 AD) and Simon de Montfort’s Parliament (1265 AD) came about because they were thought to be right and had roots in Anglo-Saxon customs. These all pervaded Wales and strongly influenced both Ireland (except for Protestantism) and Scotland. They made England, and the UK, different from the nations on the European continent.

The purpose of this brief history is simply to indicate that the inhabitants of these islands are on the whole an independent, even insular, bunch. They have intra-family disputes, which can be quite serious, but on the whole (the southern Irish don’t altogether agree) they consider themselves to be just about that: “family”. The nations of England, Wales, Scotland, Ireland and Northern Ireland still field separate sports teams (by the way, yes, the Scots, Welsh and Irish play cricket), but 1,000 years of independence and separation has built in all of them a combined mind set which has a stubborn, even rebellious, streak and does not take kindly to being told how to run one’s affairs by an outsider.

That is particularly so since the UK’s intervention in the politics of the continent of Europe has (since we gave up trying to take over France, about 500 years ago) always been directed basically to maintaining the balance of power so that no-one would be able to take us over. We have never permitted one country on the continent of Europe to become completely dominant, though obviously power has waxed and waned as between them.

The reason 900 years of hostility between us and France (largely) ended just over 100 years ago was indeed to preserve that balance by, broadly speaking, supporting France against Germany. Our other interventions have been to support the neutrality and independence of smaller European states: it was support for the neutrality of Belgium that brought us into World War I and support for the independence of Poland that brought us into World War II.

Finally, of course, the acquisition of the greatest empire the world has ever seen (even without some rebellious and religiously unorthodox colonists in North America who felt about 250 years ago that they were more English than the English in preserving their freedoms - and had considerable support within Britain in that - and went their own way) tended to breed a certain imperial belief that we knew what we were doing and were doing it rather better than most. It certainly reinforced a habit of mind that other countries were not going to dictate to us in any way.

Having given independence to the ‘old Commonwealth’ (Canada 1867, Australia 1901, Newfoundland 1907, New Zealand 1919 – 1931 and South Africa (which took with it Namibia) 1931/1934, all formalised in the Balfour Declaration of 1926 and the Statute of Westminster in 1931) first, and to most of the rest of the empire in the years 1947-1964, in the famous words of Adlai Stevenson we “lost an empire but ha[d] not yet found a role”. However, in the early 1960s we attempted to join a group of European states in a new venture called the European Economic Community. We were vetoed by the French (twice, in 1963 and 1967), since President De Gaulle considered us, shall
we say, not very European-minded. In 1973, President De Gaulle having left the scene, we eventually joined the European Economic Community.

Even in the early 1970s, the decision to join a European grouping caused some angst within the UK. There was a dispute between those who believed in “Commonwealth preference”, regarded the protectionist rules of the EEC (which, for example, resulted in our normal suppliers of dairy produce such as Australia and New Zealand facing substantial tariffs) as an anathema and preferred to rely upon our old truly international trading links and those who preferred the ‘walled garden’. Both major political parties were seriously split.

In the end the (Labour Party) Prime Minister, Harold Wilson, having come to power in 1974 on a manifesto commitment to renegotiate our terms of membership, did that and called a referendum in order to resolve the issue. The referendum produced a substantial majority (67.2% : 32.8% on a 64.6% turn-out) in favour of remaining in the EEC, despite the warnings of campaigners against it, some of whom warned that it was the precursor of a European “super-state”.

Since then, the “European Economic Community” has morphed into the “European Union”. The European Union, besides constituting itself a single market (something which had to be fought for very hard by the UK and some other states within the EU and is still incomplete) now has a President (in fact, more than one!) and foreign minister (and a common design of passport), a common currency (not extending to all member states, but all new joiners must commit to it), freedom of movement (i.e. the ability to change permanent residence) between member states, a parliament and so on. To many it invokes the adage that if it looks like a super-state, acts like a super-state and feels like a super-state, it probably is a super-state, at least in embryo.

A combination of these moves on the “macro” level, and micro irritations such as directives being issued by the EU which have direct force in local law, and are perceived as interfering with everyday life and so on, have irritated people long used to self-governance, doing what they want and not what anybody else wants etc. In addition, the EU has been a convenient “whipping boy” for national politicians of all stripes for unpopular things if there is any chance they can be blamed on it.

The substantial British net payment into the EU budget, even after the “Thatcher rebate”, has been a permanent irritation, particularly after half of that rebate was given away by the Blair government. Although half of the gross payment comes back in the form of EU grants (a) that, of course, means that it is not the UK which decides how that money is spent; and (b) it is still a large net payment.

There are good arguments in favour of EU membership. The EU is one of the largest markets in the world. Its internal market enables both goods and (increasingly) services to be exported freely from any one member to another, and its system of reciprocal judicial support means legal disputes can be easily resolved and enforced anywhere within the EU. Its size means that it has trade (and diplomatic) negotiating weight enabling it to do good deals with other nations and trading blocs.
anti-terrorist co-operation work well. And so on.

But such arguments do not address the ‘reclaim our country’ political argument, or the suspicion that remaining means not the status quo but yet ‘more Europe’. And those who advocate leaving say that there is more and better trade to be done worldwide than confined within a bloc and constrained in negotiations by the need to get 28 fractious members to agree every position. These views gradually became more attractive as the years went by.

Accordingly, 41 years on from the original referendum on membership of EEC, another (this time Conservative Party) Prime Minister, David Cameron, having come to power in 2015 on a manifesto commitment to renegotiate our terms of membership, did that and called a referendum in order to resolve the issue. The referendum produced this time a majority in favour of leaving the EU. The margin on June 23, 2016 was not large (1.3 million votes; 51.9% to 48.1%, on a turn-out of 72.2%) but was significant.

The campaign was not particularly edifying. A respectable economic case for staying (all the independent forecasters suggested a loss of several points of potential GDP growth due to departure) and the political arguments for it, and the mainly political (but also long term economic) one for leaving, were marred by absurd claims on both sides. Those favouring ‘Remain’ invoked the threat of war (the Prime Minister), the “end of Western political civilisation” (Donald Tusk, President of the European Council), a “20% fall in house prices” (the Chancellor of the Exchequer), and “annual income loss of £4,300 per family” (the Chancellor again). The only omissions were famine and plagues of frogs. The ‘Leave’ campaign called it ‘Project Fear’. By the same token the “Leave” campaign majored on a cost of £350m per week (the gross contribution to the EU budget) which they offered to spend several times over, concentrated on the threat of uncontrolled immigration (the economic evidence, while rather a case of ‘lies, damned lies and statistics’, seems on the whole to indicate that the economic effect at any rate is probably somewhere around neutral), bureaucratic interference from Brussels and generally played the “Johnny Foreigner is taking over our country” card.

That campaign was undoubtedly won by ‘Leave’. The bandwagon was halted by the assassination of ‘Remain’ campaigning MP Jo Cox but not derailed. In the end, in this largely economic versus political argument, politics (and Leave’s economic hopes) won. A general feeling that the British wished to be British, rather than European, appears to have swayed the “floating vote”.

Economically, at the date of writing (July 11) sterling has declined by over 12% against the US dollar and about 10% against the Euro, which has itself fallen against other currencies. The UK’s credit rating has been cut from AAA or AA+ to AA (the same as France’s). On the other hand, stock-markets have regained pretty much all the losses which immediately followed the result. How much of that is due to genuine re-appraisal and decision that the economic outlook is not actually as bad as the markets initially feared, as against hopes of interest rate cuts and other monetary and financial stimulus, is unclear.
The uncertainty and the perceived likely loosening of economic ties with the EU countries are already affecting the economy, certainly in the short term. Despite the bounce in the stock markets, monetary and fiscal loosening of policy is expected in the face of these difficulties. The Government has already announced abandonment of its commitment to run a fiscal surplus by 2020 and it is expected that interest rates will be cut shortly in attempts to bolster the economy. The lower exchange rate already acts as a monetary loosening.

Politically, there has been outrage in the liberal metropolitan elite. There has also been some degree of “buyer’s remorse”. A petition to have the referendum rerun (the ‘keep voting until you get it right’ approach) has been signed by about 4 million people at the time of writing (of which at least 100,000 appear to be robot-created ghosts). There are even suggestions that since the referendum is, technically, purely advisory and it is known that a majority of Members of Parliament are in favour of “Remain”, Parliament may choose to ignore the referendum decision. (Of course, to do so would be political suicide for those concerned.)

David Cameron, the (Conservative) Prime Minister who had campaigned vigorously for ‘Remain’, understandably felt that he was not the man to lead the negotiations for withdrawal and so announced that he would resign as soon as the Conservative Party has chosen new leader. His successor as Leader of the Conservative Party was announced earlier today (pleasantly, Jane’s and my own MP, Theresa May, who we know quite well) who will take office as Prime Minister on Wednesday July 13.

Quite separately, the Labour Party in Parliament voted by 172 to 40 on June 28 that it had no confidence in its leader. His somewhat ambiguous performance during the referendum campaign seems perhaps more an excuse than the true cause, though no doubt part of the cause. Whether he will be forced out is currently unclear: it appears that a leadership election will be needed. The result is uncertain both as to the votes and the consequences for the party. Certainly the political scene is going to see some changes.

What will actually happen? Our political leadership agrees on one thing with the political leadership in the EU. That is that the verdict of the British people must be respected. The Prime Minister designate (who declared for ‘Remain’ in the referendum campaign, though not very forcefully) has made it clear that “Brexit means Brexit”, hence that there will be no second referendum and that she will ensure that the UK leaves the EU.

She is expected to invoke Article 50 of the Treaty of Lisbon, which formally starts a then unstoppable exit process, once the UK’s negotiating position has been decided. She has said may not be until towards the end of 2016.

There is some talk that a formal approval of this by Parliament is required (mostly from ‘Remain’ supporters hoping that Parliament would refuse to give it). It is to be expected that this will either be ignored or that Parliament will, in fact, bow to the will of the people and vote it. A serious constitutional crisis would result if it were not to do so.

Once Article 50 has been invoked, there is no turning back. The only thing that remains is to see what, if anything, takes the place of EU membership.
Many on the “Leave” side seek membership of the single market but without the obligation to pay into the EU budget and above all without accepting freedom of movement. The EU’s leadership has made it clear (both before and after the referendum result) that this is not on offer: it is the so-called ‘four freedoms’ (freedom of movement of goods, services, labour and capital) or none. So, if membership of the single market is sought, then the payment into the budget (maybe at a lower basic level but presumably without the previous British rebate) and acceptance of freedom of movement are required (on the so-called Norwegian model, based on membership of the European Economic Area along with Iceland, Liechtenstein and Norway).

There is then a variety of “middle way” positions, for example the ‘Swiss option’ of bilateral deals not quite as good as EEA membership. The problem is that the Swiss option excludes services, the UK’s strong suit. The UK could re-join EFTA (which it left to join the EEC). There is also the Canadian option, for example, or perhaps the TPP. There are bespoke option apart from these ‘off the peg’ answers. Then one reaches the “no deal at all” position, when one presumes the UK would rely on the World Trade Organisation (“WTO”) rules entitling it to Most Favoured Nation status and accordingly enjoy access to the EU’s market but only on that basis, which is considerably less advantageous than the current basis. (Of course, the fall in sterling would compensate for some tariffs.)

In the medium term, there can be no doubt that Dublin/Ireland (English speaking, common law, established financial expertise), Frankfurt/Germany (substantial financial market) and Paris/France (same) in particular will be vying mightily to become the major point of entry into Europe for a number of financial and manufacturing organisations around the world that have previously entered the EU via London/the UK. The Leave campaign believes that this danger is exaggerated and that any loss will be more than offset by trading opportunities elsewhere in the world. All that can be said is that we shall now see!

An enormous number of treaties will have to be renegotiated. The UK, having over the past 43 years interwoven its affairs very substantially with the EU, has its international relationships in a large number of ways conducted through the EU (one of the things, of course, to which the Leave campaign objects). All the relevant treaties will require to be renegotiated.

In addition, a great deal of UK law is based either on EU Directives with direct effect, on UK legislation implementing EU requirements, either in terms as the UK interprets them, or indirectly by UK law having been drafted practically or even expressly to harmonise with EU law. All of this will have to be rethought and much may have to be rewritten.

A special unit was set up within the Civil Service, to be run from the Prime Minister’s office, starting as early as June 28, to deal with this. The current suggestion is that the Government will have to hire a substantial number of expert outsiders to assist. The timescale for completing it is uncertain: even leaving aside President Obama’s suggestion that the UK would be “at the back of the queue” (which didn’t help the Remain campaign – remember that the British don’t like being
pushed around), negotiating trade (and especially services) treaties is notorious for being a long process.

On the other hand, the two year timescale for quitting the EU is fixed by Article 50 and can only be extended with the consent of all the remaining 27 members of the EU. It seems unlikely that every single remaining member will wish to accommodate the UK by extending the period.

The effects are already being felt. As just one example, the EU Regulation and Directive governing the market in financial instruments require that ‘third country’ firms providing investment services to professional investors must offer to submit any disputes relating to those services to the jurisdiction of the Court or arbitral tribunal in a member state, and that in respect of retail investors member states may require that third country businesses who wish to do business must set up a branch in the member state. Two years after Article 50 is invoked, the UK will become a ‘third country’. Accordingly, even contracts being written today will have to take account of these requirements within the EU, which will take effect as soon as the two year transitional period is over.

By the same token, the Brussels Regulation on the automatic recognition of judgments within the EU will cease to be effective in respect of UK judgments two years from the invocation of Article 50. (Granted the length of time some cases take to be decided, this is already a consideration.) Accordingly, amongst the treaties which will have to be renegotiated (even if only by seeking to put in place former treaties, and one would hope these could be improved) will be all the necessary treaties for the 27 member states. And, to quote Professor Burkhard Hess and Professor Marta Requejo-Isidro: “The main interest of the union won’t be to maintain or strengthen London’s dominant position in the European judicial market . . . . [and] . . . there is a genuine interest to the Union to see mandatory EU law applied in disputes relating to the internal market by courts operating within its regulatory framework”. The UK cannot expect any favours.

Even the English language may suffer. Although English has been the lingua franca in the EU, the UK is the only country which has registered it as its official language. Accordingly, two years from the invocation of Article 50 it will no longer be amongst the languages officially used by the EU. One must suspect that its role as a lingua franca will be under immediate attack.

The UK’s internal political arrangements may also be affected. Leaving aside the party political difficulties mentioned above, the outcome of the referendum was in many ways the worst possible one for the future unity of the United Kingdom. England voted substantially to leave (though London voted substantially to remain); Wales also voted to leave. On the other hand, Scotland voted to remain and Northern Ireland voted to remain.

Scotland has, of course, as recently as 2014 held a referendum of its own on remaining within the United Kingdom. The result was a reasonably substantial majority to stay within the United Kingdom (55.3% : 44.7% on a turnout of 84.6%). Since then, the value of oil, one of Scotland’s major natural resources, has declined precipitously, so the economic case for staying within the UK is better. Further, Scotland apparently wishes to
keep sterling as its currency; this would not be possible (except by unlikely special concession) if an independent Scotland sought to join the EU. However, sentiment in Scotland in favour of remaining in the EU (and that objection to being pushed around – this time by the English) is so strong that it is thought that the balance will probably have moved further in favour of leaving the UK, maybe to a point where a new referendum vote could indeed go in favour of independence. There will be considerable politicking on that over the coming months and years.

The terms on which Scotland could join the EU would be difficult to negotiate, however. Besides the economic issues identified above, England contributes substantial sums to Scotland’s budget; EU subsidies would be required to compensate. Spain, with rebellious regions, may wish to make entry difficult or discourage its own separatists; Belgium might feel the same. On the other hand, the EU countries might wish to make the UK’s life difficult and so try to overcome these problems.

The situation in Northern Ireland is difficult. Much of the mechanics put in place by the Good Friday peace agreement will be imperilled by the UK’s departure from the EU. To put it at a basic level: much depends on the border, both political and physical, between the Republic of Ireland and Northern Ireland being porous and readily negotiated. When that border becomes the only land frontier between the United Kingdom and the EU, it is difficult to see how it cannot become quite a “serious” boundary. Considerable goodwill and ingenuity will be required to ensure that Northern Ireland does not revert to more difficult times (and Sinn Fein has already called for Northern Ireland to hold a referendum on joining the Republic).

Other political effects will surface. The effect on Gibraltar (which voted overwhelmingly to remain) may be particularly traumatic. The last time Spain closed the border with Gibraltar, it was reopened promptly after a peremptory intervention by the EU on the grounds of disruption to the single market. That level of protection will no longer be there, and Spain has already raised the issue of sovereignty over Gibraltar.

The influence of the EU and the UK in unrelated international bodies will change. The EU will no longer have two members of the UN Security Council; by the same token, the UK will no longer have to coordinate its vote there with France and the EU’s overall policy. The UK will be represented at CITES and many other bodies independently for the first time in many years; the EU’s voice will be weaker (except for example at CITES where it cannot agree a position anyway).

Strange linkages will be found. Thus it is already being pointed out that English law firms will be excluded from South Korea unless the UK negotiates entry for them, since they are there under EU agreements. The only universal law is that of unintended consequences. There are plainly unknown unknowns here!

Of course, there are those in the Leave campaign who believe (maybe hope) that the seismic effects of the UK’s departure will result in the departure of other countries from the EU (Nigel Farage, leader of the UK Independence Party and probably the prime mover of the whole ‘Leave’ movement, predicted as much in his speech to the European Parliament on
June 28) and might even bring down the whole structure. This cannot be ruled out as a possibility but it implies more disruption rather than less. So unless the whole EU structure is completely destroyed, at which point all bets are off, the attitude of those countries which remain in a smaller entity will presumably be less favourable to the country that started the process, the worse the process for that entity becomes. Two years is a surprisingly short time, especially in matters of this gravity. Companies doing business with the UK, especially if it also involves other countries in the EU, should be taking account now of what is happening. It is to be hoped that the main outlines of the UK’s negotiating position (whether it seeks a Norwegian outcome, a WTO outcome or something in the middle) will be clear well before the end of 2016. The likely outcome of those discussions, however, will probably have to wait longer. In the meantime, the establishment of offices and factories, and the negotiation of contracts and deals, will have to take account of the potential effects of the likely end of the two year period in or about October 2018.

Having once said that, the UK is and always will be very much open for business, both from people within the EU and from people from outside it. We still love all our friends, and the countries of the EU remain in that sense very much friends. London remains, and will remain, a “world City” and buccaneering British businesses will continue to trade goods and services with everyone, using the experience gained over the last 1,000 years!
A Short History of Flint. Flint is located along the Flint River, approximately 60 miles northwest of Detroit. It was founded as a village in 1819 by a fur trader, and incorporated as a city in 1855. The Flint River provided the natural resources to create successful commerce in the 1800’s for fur trading, lumber, the manufacture of carriages, and eventually the production of horseless carriages that led to the birth of the automotive industry.” Buick Motor Company was founded in Flint in 1903. William Durant formed General Motors in Flint in 1908. “After World War II, Flint became an automobile manufacturing powerhouse for GM’s Buick and Chevrolet divisions.” The good times did not last.

Deindustrialization and other factors led to a dramatic population decline in Flint. “From a peak of more than 200,000 in 1960, Flint’s population had fallen below 100,000 residents by 2014. Since 2000, Flint has lost over 20 percent of its population. Of the remaining residents, approximately 57 percent are Black or African American. Poverty is endemic in Flint, with 41.6 percent of the population living below federal poverty thresholds -- 2.8 times the national poverty rate.”

“The City was the focus of ‘Roger & Me,’ a 1989 documentary directed by Michael Moore that examined the disappearance of auto industry jobs. Yet after the documentary, the jobs went right on
vanishing. The city has hollowed out.”

In 1978, over 80,000 Flint-area residents were employed by GM, but the number of employees decreased to 23,000 by 1990, and to 8,000 in 2006.7

The Water Crisis. Flint’s Water Treatment Plant was constructed in 1917. It used the Flint River as the primary water supply for Flint for approximately 50 years. “To ensure adequacy and reliability of water supplies, in 1967 Flint signed a long-term contract with the Detroit Water and Sewerage Department (DWSD) . . . DWSD’s water supply has been treated for corrosion control for over 20 years and is deemed optimized for corrosion control treatment.”8 The Detroit water system was supplied by Lake Huron.

Michigan law allows the state to appoint an Emergency Manager to run municipalities that are in financial distress. Emergency Managers have complete control and authority over municipal decisions. “Since 2011, the City has been under some form of state-ordered and controlled emergency financial management.”9

While under emergency management, Flint’s contract with DWSD was terminated, and its water supply was switched from Lake Huron to the Flint River.10 In April 2014, Flint began distributing water from the Flint River to its residents.

In a disastrous (and incorrect) decision, the Michigan Department of Environmental Quality (MDEQ) determined that the water did not have to immediately be treated with corrosion control. Instead, MDEQ determined that Flint “could complete two 6-month monitoring periods and MDEQ would then determine whether corrosion control was necessary.”11 This decision “led directly to the contamination of the Flint water system.”12

Water from the Flint River is highly corrosive to iron and lead, and these pipe materials are widely used throughout Flint. Water from the Flint River water has about 8 times more chloride in it than Detroit water.13 Moreover, “iron corrosion consumes chlorine. Chlorine is added to the water to prevent growth of microorganisms that cause disease.”14

“[U]tilities treat their water to maintain a mineral crust on the inside surfaces of their pipes. This so-called passivation layer protects the pipes’ metal from oxidants in the water. The coatings consist, in part, of insoluble oxidized metal compounds produced as the pipe slowly corrodes. If the water’s chemistry isn’t optimized, then the passivation layer may

---

7 Scorsone and Bateson, supra n. 2, at 1.
9 Id. at 39.
10 Detroit was also under emergency management at the time.
13 Why is it possible that Flint River water cannot be treated to meet Federal Standards?, http://flintwaterstudy.org/tag/drinking-water/.
14 Id.
start to dissolve, or mineral particles may begin to flake off of the pipe’s crust. This exposes bare metal, allowing the iron, lead, or copper to oxidize and leach into the water . . . . Most important, the treated Flint River water lacked one chemical that the treated Detroit water had: phosphate . . . . Cities such as Detroit add orthophosphate to their water as part of their corrosion control plans because the compound encourages the formation of lead phosphates, which are largely insoluble and can add to the pipes’ passivation layer.” 15 In sum, the failure to use orthophosphate to prevent corrosion of Flint’s aging pipes allowed lead to leach into the drinking water. 16

Soon after the City began distributing water from the Flint River, “residents began to complain about its odor, taste and appearance.” In August 2014, a boil water advisory was issued after E. coli bacteria was detected in Flint’s water. In October 2014, GM ceased using Flint water at its facility in Flint “due to corrosion concerns related to chloride levels in water.” 17 The water was corroding auto parts. In January 2015, due to water quality concerns, the state installed water coolers in state offices in Flint, giving state employees the option to use bottled water. 18

In February 2015, the EPA was made aware of a water sampling showing a high lead level at a Flint home. “In August and September 2015, Virginia Tech researchers published the results of hundreds of tap water tests completed in Flint, showing lead levels that far exceeded those reported by state officials.” A local pediatrician, Mona Hanna-Attisha, “independently evaluated the blood lead levels of children in Flint in September 2015 . . . . She found that the percentage of Flint’s kids who suffered from elevated blood lead levels had doubled since the water supply was switched from Lake Huron to the Flint River.” 19

In an op-ed piece in The New York Times, Dr. Hanna-Attisha would later write, “to understand the contamination of this city, think about drinking water through a straw coated in lead. As you sip, lead particles flake off into the water and are ingested. Flint’s children have been drinking water through lead-coated straws.” 20

In October 2015, Flint switched back to the Detroit water system. 21

On October 21, 2015, the Governor of Michigan appointed an independent task


16 See also https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water.


18 Id. at 18.


21 Olson and Fedinick, supra n. 19, at 9-10.
force – the Flint Water Advisory Task Force (FWATF) – to conduct “an independent review of the contamination of the Flint water supply: what happened, why it occurred, and what is needed to prevent a reoccurrence in Flint or elsewhere in the state.” The FWATF concluded that a series of government failures caused the water crisis:

The Flint water crisis is a story of government failure, intransigence, unpreparedness, delay, inaction, and environmental injustice. The [MDEQ] failed in its fundamental responsibility to effectively enforce drinking water regulations. The Michigan Department of Health and Human Services failed to adequately and promptly act to protect public health. Both agencies, but principally the MDEQ, stubbornly worked to discredit and dismiss others’ attempts to bring the issues of unsafe water, lead contamination, and increased cases of Legionellosis (Legionnaires’ disease) to light. With the City of Flint under emergency management, the Flint Water Department rushed unprepared into fulltime operation of the Flint Water Treatment Plant, drawing water from a highly corrosive source without the use of corrosion control. Though MDEQ was delegated primacy (authority to enforce federal law), the United States Environmental Protection Agency delayed enforcement of the Safe Drinking Water Act and Lead and Copper Rule, thereby prolonging the calamity. Neither the Governor nor the Governor’s office took steps to reverse poor decisions by MDEQ and state-appointed emergency managers until October 2015, in spite of mounting problems and suggestions to do so by senior staff members in the Governor’s office, in part because of continued reassurances from MDEQ that the water was safe. The significant consequences of these failures for Flint will be long-lasting. They have deeply affected Flint’s public health, its economic future, and residents’ trust in government.

The Flint water crisis has generated a massive amount of litigation. The litigation includes class action lawsuits against the State and City, a lawsuit by the State against environmental consultants regarding work they performed related to Flint’s drinking water, a citizen suit by the National Resources Defense Council (“NRDC”) and ACLU, and criminal charges. The Safe Drinking Water Act and the Lead and Copper Rule. The federal Safe Drinking Water Act was enacted in 1974. It governs the regulation of drinking water throughout the United States. It has been amended multiple times, most recently in 2015. The Safe Drinking Water Act “requires the EPA to set a health-based maximum contaminant level goal (MCLG) that is fully protective of health for each drinking water contaminant . . . . The agency must then establish maximum allowable levels of

---

23 42 U.S.C. § 300f, et seq.
the contaminant, or maximum contaminant levels (MCL), as close to the MCLG as feasible, considering technological limitations and costs. In other words, the EPA sets a limit for what can be considered fully safe in drinking water, and then sets another . . . standard for tap water” to account for feasibility and costs.\(^{25}\)

The MCLG for lead in water is 0 parts per billion (ppb), but the action level for lead under the Lead and Copper Rule, discussed below, is 15 ppb.\(^{26}\)

“In 1991, the EPA established the Lead and Copper Rule, a complex treatment technique to control lead levels in tap water . . . . [U]nder the Lead and Copper Rule, all water systems serving more than 50,000 people must either treat their water to ‘optimize corrosion control,’ or demonstrate that they don’t need to do so because their water isn’t corrosive and they have no lead problems. The Lead and Copper Rule generally requires water systems to add a corrosion inhibitor, such as orthophosphate, which controls corrosion and coats the inside of the pipes with a thin film that can reduce the amount of lead that leaches into the water.”\(^{27}\)

Under the Lead and Copper Rule,\(^{28}\) if more than 10 percent of the tested taps contain lead above the action level of 15 ppb, then the water system must take measures to reduce lead levels.\(^{29}\) In other words, the Lead and Copper Rule mandates only “that the 90th percentile, or the 90th highest sample of 100, tests below 15 ppb.”\(^{30}\) Thus, “a water system can stay in compliance no matter how high – 100, 1,000 or 10,000 [ppb] – the top 10 percent of the samples are, as long as 90 percent fall below 15 ppb.”\(^{31}\) In Flint, the 90th percentile was 25 ppb, meaning ten percent of 252 samples exceeded 25 ppb.\(^{32}\)

The Lead and Copper Rule is currently undergoing revision, which could result in a new proposed rule in 2017.

**Aging lead pipe infrastructure is not unique to Flint.** “Cities no longer install lead pipes. But older cities such as Flint still rely on them, usually as service lines that connect water mains in the street to a home’s water meter. A 1990 report from the American Water Works Association estimates there are millions of lead service lines in the U.S.”\(^{33}\)

“Lead pipes installed in cities 100 or more years ago need to be replaced, sooner rather than later. Flint, Michigan is certainly not the first U.S. city to see its water contaminated by aging pipes. And, unless the many American cities with aging lead pipes get to work quickly, it will not be the last, either. The poisoned tap water of Flint serves as a warning sign to city officials throughout the U.S: Lead pipes installed in cities 100 or more years ago need to be replaced. Lead pipes are prevalent in cities that were developed in the 19th and early 20th centuries, meaning

---

\(^{25}\) Olson and Fedinick, *supra* n.19, at 12.

\(^{26}\) Id. at 22.

\(^{27}\) Id. at 22.

\(^{28}\) See https://www.epa.gov/dwreginfo/lead-and-copper-rule and 40 C.F.R. Part 141.

\(^{29}\) Olson and Fedinick, *supra* n.19, at 22.


\(^{31}\) Id.

\(^{32}\) Id.

\(^{33}\) Torrice, *supra* n. 15.
all the major metropolitan areas in the Northeast, Midwest, and California . . . . In Philadelphia alone, there could be 50,000 lead service lines . . . . Replacing service lines nationwide would cost billions of dollars.  

Compounding the problem, in many instances, cities cannot even locate their lead water lines. “Hundreds of cities across the country, including many in metro Detroit and across the state, can’t locate all their lead water lines, meaning regular water tests could be missing the homes most likely to experience lead problems.”

An analysis by the NRDC found that in 2015, “over 18 million people were served by 5,363 community water systems that violated the Lead and Copper Rule.” A 2016 study by USA Today “identified almost 2,000 . . . water systems spanning all 50 states where testing has shown excessive levels of lead contamination over the past four years.”

Aging lead pipe infrastructure is a problem that will not soon be solved.

---


36 Olson and Fedinick, *supra* n.19, at 5.